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# Practical Field Application of Relative Permeability Data

By
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**Abstract**

This paper describes for those who are not experts in the field of reservoir engineering or fluid mechanics what relative permeability is and how it may be put to use in solving various types of field problems. It is shown that it is a key part of the data required for an understanding of the processes that take place in an underground formation during the recovery of oil. Through an understanding of these processes it is possible to provide a sound basis for both management and local field decisions, which adds to the overall efficiency of the business of oil recovery.

**Introduction**

For some years, now, there has been a rapid increase in both the number and complexity of papers on the subject of relative permeability presented at technical meetings devoted to the various problems of oil recovery. Such papers have dealt with detailed techniques of measurement, with applications through mathematical equations to specific situations encountered in various types of oil and gas reservoirs, and have presented data on cores from many different producing formations. These papers represent extremely important technical contributions. By their very nature, however, they are often unintelligible to many of us who are also concerned with the efficient recovery of oil but who are not specialists in the field of reservoir or fluid mechanics. The unfortunate result is that it is becoming increasingly difficult to see where this activity is leading or even to appreciate its growing importance.

This paper is not intended as another such technical contribution. Its purpose, instead, is to abstract and illustrate some of the uses of relative permeability and its applications to the solution of certain practical field problems. It is hoped that such a review may help to provide better understanding and appreciation of the contributions being made by the reservoir engineer and the fluid mechanics specialist to the increasing efficiency of oil recovery.

**What is Relative Permeability?**

Before it is possible to understand how it is applied, it is necessary to know, first, what relative permeability is and where it fits into the pattern. In the broad sense it is a concept, but in the specific sense it is a piece of data, just like the pressure in an oil reservoir or the texture of a sample of rock. Alone, it has no use, but when coupled with other pertinent factual data it becomes an important pillar in the structure of any study concerned with those events that take place inside an oil reservoir. In other words, it is a part of the basic data required for a determination of the fluid movements taking place in a producing formation and their influence on the ultimate recovery of oil or gas from a specific reservoir.

There are three properties of a reservoir rock that are important if it is to produce oil or gas. The first is porosity. Unless the rock is porous it can contain no oil or gas. Second is its texture or mineralogic composition. The texture often influences to an important degree the relative proportions of oil or gas, and water contained in the pore space. Third, the rock must have a continuity of pore spaces such as to permit its contained fluids to escape. This third property is called permeability. It is influenced to some degree by porosity and to a very important degree by texture. In the same manner that a pipe line of large diameter can transmit more liquid with less pressure drop than can a bundle of pipes containing the same total volume but of smaller diameter each, so a rock with relatively large pore spaces can transmit fluids more easily than can a rock of the same total porosity but containing very small interstices.

Like the porosity, the permeability of a sample of an underground formation can be measured in the laboratory and assigned a

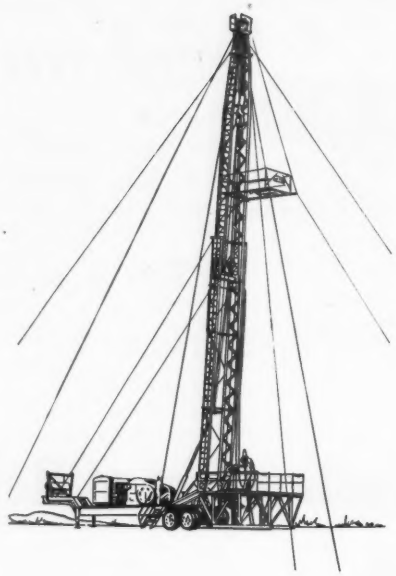
quantitative value. This value, in the oil industry, is usually expressed in a unit called the 'darcy.'

The permeability of a rock is the property of the rock alone, dependent solely on the physical geometry of the pores. It is the same regardless of what kind of fluid may flowing through it, provided there is only one fluid, and provided that fluid does not interact with the rock in such fashion as to change its internal physical structure.

It was discovered some years ago that when a porous rock simultaneously contains two or more fluids, such as water and oil, water and gas, oil and gas, or all three, each fluid interferes with or impedes the flow of the others. The degree of impedance depends on the amount and kind of interfering fluid present. From this discovery it became evident that the permeability of a formation, alone, is not an adequate measure of its ability to transmit oil or gas. Accordingly, to meet the specific needs of the oil industry it became necessary to consider a modified property of the rock that would serve as an index to how much oil or gas can flow through a formation under a specific set of conditions.

This modified permeability is called the **relative permeability.** It is that fraction of the total permeability that is effective in permitting the flow of a specific fluid in the presence of others. Since an oil reservoir almost invariably contains connate or interstitial water along with the oil, and since both gas and oil are usually present, it is always necessary to use the relative permeabilities rather than the unmodified rock permeability in reservoir problems.

Unfortunately, the relative permeability, although it is basically a property of the rock, depends also on both the amount and kind of fluids present. For example, in a given sample of rock the relative permeability to oil may vary from zero to 100 per cent as the oil saturation is increased. For the same sample the relative permeability to oil will vary for a fixed oil content as the proportions of gas and water filling the remaining void space are changed. For two different samples



of rock the relative permeabilities to each fluid will be different for the same relative amounts of fluid present. This situation terrifically complicates the problems of reservoir mechanics, and is the underlying reason for the great amount of special effort that has been devoted to the determination and study of relative permeabilities.

The qualitative characteristics of relative permeabilities are now reasonably well known. For example, the relative permeability of a rock to oil increases as the amount of oil contained in the pores increases. The same is true of gas or water. However, since the specific values are different for different reservoir rocks, it is necessary in a study of the performance of a specific field that measurements of relative permeabilities be made on actual samples of the producing formation in question. These measurements are made in a laboratory by flowing oil and gas, water and oil, or water, oil, and gas simultaneously through a core sample. The fluids used and the manner in which their saturations are changed during the measurements depend on the nature of the particular field being studied and its expected manner of operation.

### Influence of Relative Permeability On Ultimate Recovery

The particular application that will probably always stand out as the single most important result of the discovery of relative permeability is the immediate insight it gave into the limitations of all natural processes for the recovery of oil. Over a period of years there had developed a growing awareness that wide-open production was leaving large amounts of unrecovered oil in the ground. During the 1920's the realization developed that in most fields the agent that propelled oil to a well bore was its accompanying gas, and that when the gas was gone the remaining oil was left without any natural agent to sustain production. Attempts were made to prevent the dissipation of gas, but there was little understanding of how to accomplish such a result in most fields, and there was no way by which to judge the effect on ultimate oil recovery if gas were in some manner retained in the reservoir.

The discovery of relative permeability, and experimental observations of its dependence on the relative amounts of oil, gas and water present changed this whole situation. It became possible immediately to see not only that oil was left behind in all fields, but **why** it was unrecovered. A groundwork was laid that became the foundation for the growth of a whole new branch of engineering devoted to a study of the processes that take place in a reservoir when oil is produced. With the basic pattern established it became possible to bring to bear the other known facts of fluid mechanics, to determine the relative advantages, disadvantages, and limitations of both water and gas as agents for the displacement of oil, and thus for the first time to develop effective methods both for increasing the recovery of oil and for reducing the total cost of recovery.

This significant development took place during the early 1930's. From that time on there has been a rapidly expanding application, not only to more and more fields, but in greater quantitative detail to specific fields. In a sense, all other applications of relative permeability to practical field problems are facets or offshoots of the basic and most important application—the study of how to get the most oil the cheapest from any given reservoir.

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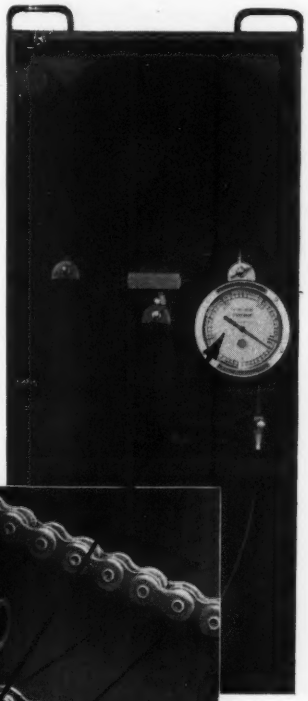

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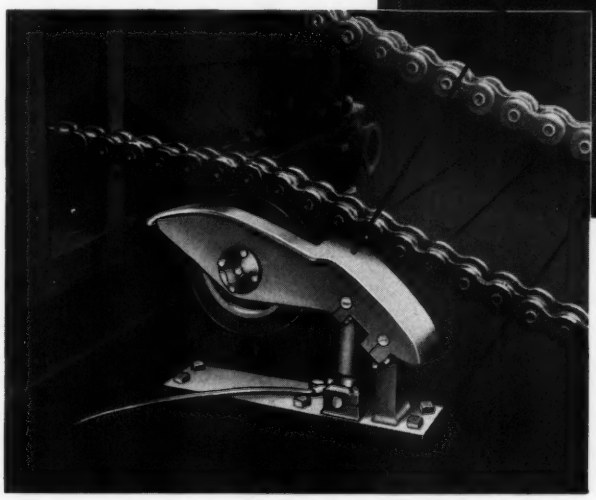

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**Examples of Application to Various Situations—Recovery by Dissolved-Gas Drive**

One of the most common and most straightforward applications of relative permeability is in the calculation of the recovery obtainable in a reservoir known to be operating solely by dissolved-gas drive. Such a calculation requires, of course, far more basic data than merely the relative permeabilities of samples from the producing formation. The basic geologic information with respect to the extent, thickness, and continuity of the producing zone, its porosity and interstitial water content, the reservoir temperature and pressure, and the composition and characteristics of the reservoir oil are all essential. Instruments and techniques are available for obtaining such information.

With these basic data supplied, it is possible to calculate by a rather straightforward procedure a complete preview of the future operating behavior of the reservoir, including the following:

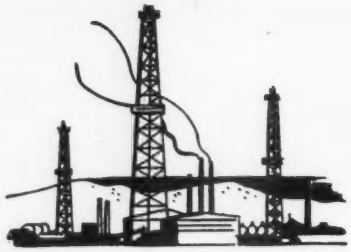
1. A complete history of the decline of reservoir pressure with cumulative production. From this, together with data on the productivities of the wells and their calculated declines, the ultimate recovery by the time the economic limit is reached can be determined directly.

2. A complete history of the gas-oil ratio as a function of the cumulative production.

3. The rate at which the productivities of the wells will decline as the reservoir is depleted. If production is unrestricted, the production declines of the wells can be predetermined.

To those accustomed to planning other aspects of their operations in such a manner as to provide efficiency and minimize costs, it should be readily apparent that the ability to see in advance the details of the behavior of an oil field for a period of five, ten, or twenty years into the future opens many avenues for more effective planning in auxiliary field operations.

For example, if the volume and composition of the casinghead gas produced with the oil are such as to warrant its being processed for recovery of natural gasoline or being



connected to a market outlet, the anticipated future volumes play a dominant role in the selection of the proper sizes and types of equipment, both in the gathering system and in the plant. With both the future volumes and future pressures known for the oil wells, pumping or gas-lift equipment and related auxiliaries can be so selected as to minimize cost over the life of the operation.

**Detection of Deviations from Normal Behavior**

Potentially more important in some fields than the operating efficiencies obtainable through intelligent planning is the detection of conditions that may be exploited in such a manner as to increase the oil recovery. For example, in a reservoir thought to be operating solely by dissolved-gas drive, the gas-oil ratios of downstructure wells may be lower and the gas-oil ratios of upperstructure wells higher than predicted. Such a condition may indicate substantial segregation of the oil and gas in the reservoir under the influence of gravity. Since under suitable conditions gravity may be employed very effectively to increase the natural recovery far beyond that obtainable by dissolved-gas drive alone, an observation such as that cited may serve to point out the need for further reservoir studies directed to an analysis of the possibilities and probable cost of a modified recovery method.

Another deviation from the predicted behavior sometimes encountered in a field thought to be producing solely by dissolved-gas drive is that the reservoir pressure remains higher than expected for a given amount of oil production. Such behavior is a direct reflection of the movement of extraneous fluid into the reservoir or what is thought to be the reservoir. One possibility always worth further investigation is that the oil reservoir is larger than previously presumed. A supposed porosity pinchout, or a water leg thought to bound the reservoir may not be a complete barrier, and communication may exist with another oil-bearing area. A more common cause for a higher than expected pressure is an influx of water into the producing zone. Whether such water influx is of such volume as to be exploited for natural water drive with its attendant possibility of increasing the ultimate oil recovery is worth investigation.

In any event, by knowing in advance what the normal behavior of a particular field should be, an alert operator is in position to detect deviations from that normal, determine their causes, and take advantage of them if possible.

**Analysis of Primary Pressure Maintenance**

In many fields the indicated recovery obtainable by dissolved-gas drive may be so low as to justify serious consideration of primary pressure maintenance as a means of increasing the recovery. Thorough study of the feasibility of pressure maintenance requires both a reservoir study to determine what can be physically accomplished and an economic study to determine what the accomplishment will cost.

Relative permeability plays a dual role in any such investigation. It is required, first, to establish the normal or base case—the operating characteristics, and the income and cost history under natural depletion. It is required, second, to do the same for an operation entailing the injection of either water or gas. Unless it is possible, in effect, to preview the entire history of a proposed operation, it is not possible to determine intelligently whether the required investment is warranted or will be recovered.

**Natural Pressure Maintenance**

In many oil reservoirs there is natural maintenance of pressure by an expanding gas cap or water drive. Space does not permit in this paper an explanation of the engineering aspects of the characteristics of gas-cap drive and water drive, or how they may be used to

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obtain higher oil recovery. However, relative permeability does play a very important part in any reservoir study of such operation. It is one of the primary factors that controls how much oil lags behind an advancing gas or water front and how much, if any, may be recovered in spite of the lag.

From the operating standpoint, the relative permeability is important in predicting when a well will begin to produce excessive gas or water and how much it may produce. As in a field operating by dissolved-gas drive, such information is useful in the planning of artificial lift installations and other surface facilities.

**Secondary Recovery**

Secondary recovery to obtain a new crop of oil from depleted or semi-depleted fields has been growing rapidly in importance during recent years. One of the main reasons for its expansion, particularly into new areas, is that it is now possible through proper engineering study to determine in advance with reasonable assurance what the future behavior of a project will be. This has eliminated much of the risk formerly associated with secondary recovery operations undertaken simply on a trial and error basis. Relative permeability plays a key role in any such study.

The choice in any conventional secondary recovery operation lies between injection of gas or injection of water. Which is best suited to a particular reservoir when both expected results and costs are taken into account can only be decided with the help of relative permeabilities measured on samples of the particular producing formation in question.

If water flooding is to be employed, the success of the operation usually requires that a bank of oil be developed in the formation just ahead of the advancing water. Whether or not such a bank will be developed, and the duration of the resultant period of high oil production can be predetermined with the aid of relative permeability measurements.

**Individual Well Problems**

In the aforementioned applications of relative permeability attention has been focused primarily on the behavior of the reservoir. From the management standpoint the reservoir problems are usually the most important. However, the field superintendent and his staff may be more concerned with the day-to-day problems of individual wells. Can relative permeability be put to use at the local level?

In many instances it can be put to very effective use in interpreting the causes of and proper remedy for undesirable well behavior. In much the same manner as the overall operation of a reservoir may be predetermined, the future behavior of a normal well may be reasonably anticipated. It is seldom necessary or desirable to determine in advance the anticipated future behavior of each well in a field. However, when a well begins to give trouble, such as failure to make its expected production, or begins to produce excessive gas or water, it is then often possible by a specific determination of what should be its normal behavior to decide whether the trouble is a normal reflection of the depletion process or has arisen from other influences.

For example, a well may decline in production over a period of two years from a rate of 200 barrels a day to a rate of 20 barrels a day. Such may reveal that the decline is completely normal and, therefore, not correctible. On the other hand, the study may indicate that for the given state of depletion, reservoir pressure, and gas-oil ratio the well should still be capable of producing 150 barrels a day. There would then be a basis for an expenditure for a clean-out or reperforation job or other corrective procedure designed to restore production to a higher level.

Substantial savings in workover expenditures are often possible through such analysis. Relative permeabilities and an understanding of the recovery mechanisms operative in the reservoir are essential in such studies.

**Conclusion**

In summary, it may be stated that relative permeability is a very useful part of the information needed for proper operation of an oil field. By itself, it has little use. However, when coupled with factual data on the other items that also influence the movement of oil and gas through porous reservoir formations it is then possible for a reservoir engineer to interpret and predict the performance of an oil field with sufficient assurance to provide a sound basis for both management decisions and field economics.

(This paper delivered at the June meeting of API)

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## Oil Accountants Elect Officers

The Petroleum Accountants Society of Los Angeles announces the election of C. F. Wilmsmeier, Western Gulf Oil Company, as President of the Society for the year which began June 1, 1953. Mr. Wilmsmeier has been employed by Western Gulf for fifteen years and is presently a member of the general staff in the capacity of Fiscal and Economic Advisor to the Vice President. Prior to his appointment to the staff, Mr. Wilmsmeier was Assistant Manager, Accounting.

Other officers elected were: first vice president, V. T. Gilchrist, The Superior Oil Company; second vice president, C. A. Peterson, Shell Oil Company; secretary-treasurer, R. F. Stine, Union Oil Company of California.

Installation of officers took place at a luncheon meeting of the Society at the Statler Hotel on June 25. Mr. H. E. Goodenow, Public Relations Officer, Southern California Gas Company, will speak at this meeting on the "Challenge to Growth."

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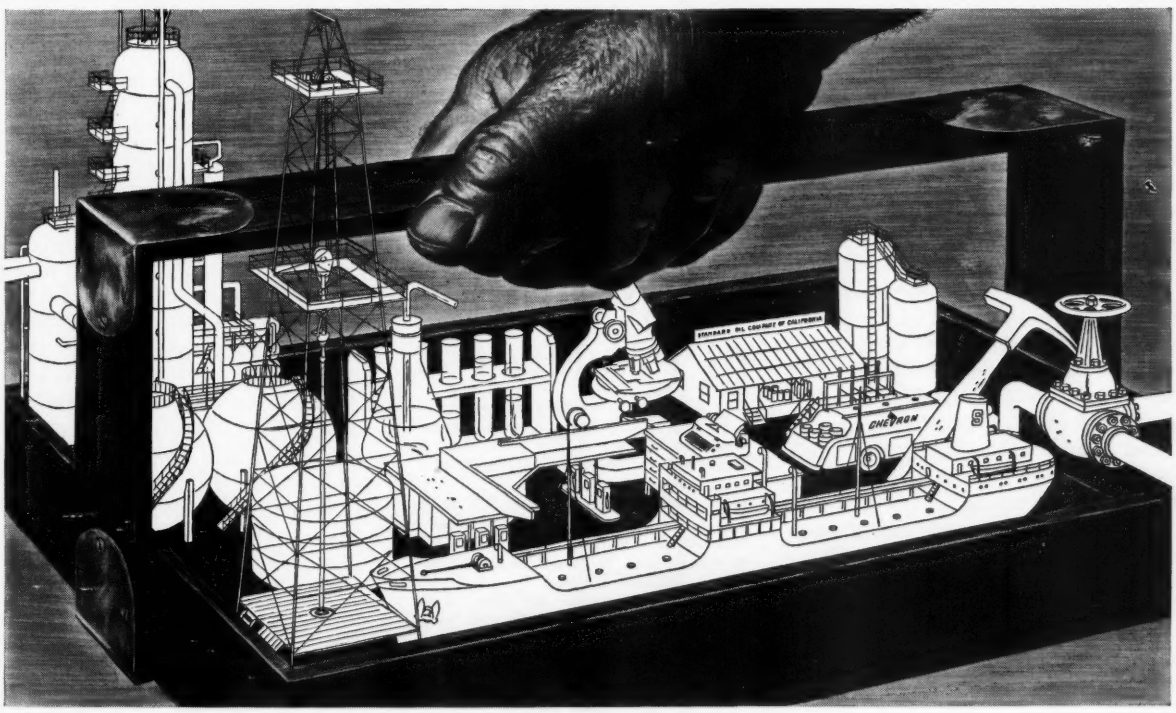


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# Rocky Mountain NEWS

**Colorado—Idaho—Montana—New Mexico—Utah—Wyoming—Western Canada**

## Colorado

Further proof of the Greenhorn formation for oil production in the Denver-Julesburg Basin has been made by Sherrod & Apperson, who have brought in the No. 2 County, sw nw sw 1-3n-61w, in the Empire field of Weld County. Operator recovered 500 feet of oil and 400 feet of heavily oil cut mud from the limestone, with the well bottomed at 6282 feet total depth. The No. 1 Endsley in Morgan County, the operator's pay zone discovery in the same field, was completed for 25 barrels a day, pumping gauge.

In Weld County, the California Co. is drilling a test to the granite in the West Nunn area. The No. 1 Baiamonte, se ne nw 6-7n-66w, was originally drilled to 7948 feet, where it was stopped in the Morrison. Current operation will carry it below 10,000 feet. The well will be watched closely as a test of Lyons sand possibilities in this area. This sand has been proved for production in the Keota field 25 miles to the northeast.

The William R. Whittaker Co. No. 1 Klausner, which had shown encouraging staining in the Lyons sand, has been plugged and abandoned after recovering water. The well was plugged back to the Morrison after failure in the Lyons but recovered only mud from that formation. The test, in southern Weld County, was 50 miles south of the Keota Lyons sand discovery.

Sherrod & Apperson were preparing to perforate the J sand and complete in that zone after recovering salt water from the Lyons sand in the No. 9 Gillette, c nw se 9-9n-61w. On a drill stem test of the interval 7269-7304, operator recovered 2400 feet of oil from the J sand. On a second test at 7304-7330 the recovery was 500 feet of oil.

A drill stem test of the No. 1 Thompson, se se se 7-8n-54w in Logan County, recovered oil at an estimated flow of five barrels per hour. The well is being drilled by Falcon Seaboard Oil Co. and is southwest of the Yenter pool. The oil recovery was from the J sand, which was topped at 5378 feet, and the drill stem test was at 5416-30. Operator was coring ahead at last report.

The No. 2 State-Hough, drilled by Forest Oil, has been brought in as the largest gas producer in the Little Beaver field, with production rated at 25,000,000 cubic feet per day. The gas production was accompanied by recovery of 110 barrels of oil per day. Production is from the J sand. Lack of an outlet for the gas at present has caused operator to shut in the well, which is located in sw se ne 36-1s-57w, in Washington County.

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## Wyoming

Southern Production Co. has found a stray sand again productive in the South Big Muddy field of Converse County, with the No. 3 State-Smith brought in at an initial rate of 205 barrels per day. Two previous wells in the field were completed in the Dakota after encountering the stray sand, and the current test was drilled to evaluate the unnamed formation. No. 3 State-Smith is in nw nw nw 1-33n-76w.

A wildcat a half mile southeast of the discovery well in the Manderson Unit, Big Horn County, has been plugged and abandoned by the Pegasus Division of Socony-Vacuum Oil Co. The test, No. F-44-20-G, c se se 18-50n-92w, was drilled to 7660 feet total depth.

The California Co. was continuing tests of the Madison at its No. 1 Corbett Unit, sw se nw 27-53n-100w, in Park County. The well was drilled to 11,198 feet total depth. One test recovered mud but was not regarded as conclusive.

Sohio Petroleum was heading for the Tensleep, expected at 8000 feet, at the No. 1 South Sand Draw Unit,

se nw se 36-32n-95w, Fremont County and was last reported drilling below 5575 feet. A substantial gas flow was encountered in the Frontier. The well is in se nw se 36-32n-95w.

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## Montana

A 4160 acre block in the Clark Fork area of Carbon County has been unitized by British-American. Announcement of location for a test well is expected in the near future.

After recovering 206 barrels of oil per day from the interval 12,585-605 feet, Sun-Phillips prepared for further testing of the No. 1 Dynneson, c sw ne 32-24n-58e, in Richland County.

Socony-Vacuum was coring below 6901 feet at the No. F-11-6-P, c nw nw 6-33n-47e, in the Police Creek area of Daniels County. This is a test to the Cambrian, expected at 9500 feet. Some shows have been reported in drill stem tests.

Also in Daniels County and 20 miles north of the Socony test, cores by Carter Oil Co. held some shows in the No. 1 Danelson, c ne sw 12-36n-47e, in the Whiskey Butte area. At last report operator was drilling below 6125 feet.

Williston Oil and Gas made oil recovery in the No. 1 Entzel, c ne ne 18-14n-55e, in the Glendive area of Dawson County, and was preparing for further tests. Two hundred fifty barrels of oil and acid water were swabbed in 12 hours from intervals ranging from 8735 to 8800 feet.

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## North Dakota

Unofficial reports of shows of oil in the No. 1 May, c nw ne 9-139n-100w, Billings County, have not been confirmed by Amerada Petroleum Corp. Operator set protective casing to 9403 feet, believed to be near the top of the Madison. This is the first test drilled by the company off the Nesson Anticline in North Dakota. It is in the Fryburg area.

A possible extension a mile northwest of Amerada production will be drilled by The Texas Co. in 8-153n-95w, McKenzie County. Texas will drill on a 3500-acre block. Amerada's producer in this area is No. 1 North Dakota D, in c ne nw 16-153n-95w.

Twenty miles to the southeast of Amerada's No. 1 May, Plymouth Oil has staked location for the No. 1 Fisher, c sw ne 11-137n-98w, which will be drilled to 10,500 feet. The Plymouth test will be in the Dalcum Buttes area of Stark County and on a block of approximately 35,000 acres.

The No. 1 North Dakota B in McKenzie County has been written off as a failure by the Amerada Petroleum Corp. The test was plugged and abandoned after drill stem tests recovered only mud and gas cut sulphur water. The well, in c sw sw 16-150n-95w, was drilled to 9338 feet in the Madison. The wildcat was located in the Croff area, where Amerada has some production in the No. 1 Risser, over five miles to the southwest.

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## Nebraska

Ohio Oil Co. was swabbing to complete in the D Sand at the No. 1 Hill in the West Sidney area after recovering 2,000,000 cubic feet of gas daily from the J sand at the interval 4984-99 feet. The D sand was topped at 4836 feet and the J sand at 4984. Operator perforated at 4837-40 for the D sand test. Previous wells in the area have been completed in this zone.

---

## Utah

Gulf Oil will drill its first wildcat in the Uinta Basin of Utah, the No. 1 Brennan Bottom, c ne se 13-7s-20e, which will go to 8000 feet and test the basal Green River and upper Wasatch.

In the West Flattop Butte area of Emery County, Delhi Oil has abandoned the No. 1 Russell after drilling to the Devonian at 6008 feet.

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## Western Canada

Alberta Natural Gas, Alberta Natural Gas Grid and Northwest Natural Gas have withdrawn their applications to transport natural gas from the province of Alberta to eastern Canada. Northwest previously announced it would not attempt to export gas to the western coast, and Calgary sources have interpreted the development as meaning these companies are abandoning plans to enter the export field.

A farmout of acreage originally leased by California Standard has resulted in a three-mile extension of the Hamilton Lake field in central Alberta. Regent Drilling and Dragon Oils have brought in the Dragon-Ranchmen's Hamilton Lake No. 6-31, in 1sd 6 of 31-35-9w4, for both gas and oil production. The well is in the Hanna area, and recoveries were at intervals of 2970-2995 and 2948-2980 feet. Drill stem test at the former interval recovered 1320 feet of oil. The second test showed for 480 feet of oil and 225,000 cubic feet of gas per day. Operators obtained the acreage from firms which had acquired the farmout from California Standard.

Albercan Oil, a subsidiary of Canada Southern Oils, has taken a farmout of approximately 81,000 acres from New Superior Oils five miles east of the Coleville field in Saskatchewan.

Up for action by Delhi Oil Corp. stockholders in Dallas late in June was a proposal to separate Canadian Delhi Oil Ltd. from the Dallas corporation. The reorganization was proposed to set up a new Canadian company to control Trans Canada Pipe Lines, Ltd., which is a Delhi subsidiary. Trans Canada is pressing an applicaton to transport gas from Alberta to eastern Canada. The new corporation would be Canadian Delhi Petroleums, Ltd.

The Baysel Medicine Hat No. 15-2, with Bailey Selburn Oil and Gas as the operator, was completed for an initial rating of 4,000,000 cubic feet of gas per day. The well, which has been shut in pending an outlet, extends the Medicine Hat gas field two miles to the north. Bailey Selburn plans another well two miles west.

---

Hollywood Stars Barbara Stanwyck, Dennis Morgan, Cary Grant and Humphrey Bogart share in new and successful oil development in the Denver-Julesberg Basin of northeastern Colorado. These filmland personalities, along with Producer Danny O'Shea and Hollywood and New York writer Collin Miller, are credited with owning a substantial interest in a new producer in the Little Beaver area, Washington County, Colo.

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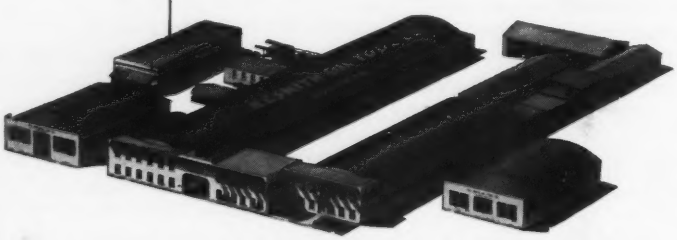

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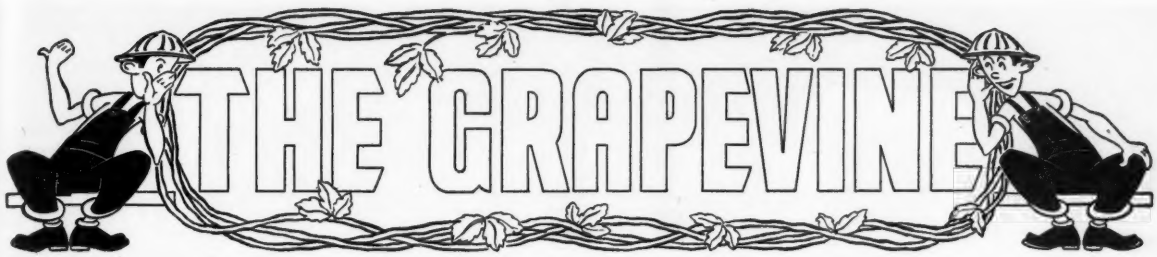



One of the nicest dedication ceremonies so far staged under the auspices of Petroleum Production Pioneers was that carried out in cooperation with Standard Oil Company of California at Pico No. 4 (or CSO No. 4 as it is known in S.O. records) in the Newhall area. This is believed to be the first commercially productive well drilled in the state and the dedication exercises brought out a sizable gathering of oil people. Ben H. Anderson, regional superintendent of Continental Oil Company and current prexy of PPP did a very neat job of introducing local celebrities and old timers who had been associated with the well, and formally unveiling the monument.

Down from San Francisco to participate in the ceremony came Gage Lund, vice president and director of Standard of Cal; Jules Toussaint, vice president and manager of the producing department; and Jim Gosline, assistant manager of the producing department. Newhall dignitaries gracing the platform were Judge C. M. MacDougall; Herman Roberts, captain of the Sheriff's department; A. B. Perkins, old time resident and historian of the area; Fred Trueblood, publisher of the Newhall Signal; Ralph Overton, president of the Newhall Chamber of Commerce; and Sergeant of the Highway Patrol. Also present were Mrs. Ross McCollum who was born in Pico Canyon, and her father, Walton Young, retired Newhall division superintendent who began work with S.O.Co. in 1889; Mrs. Kate Cochems, mother of Bill Cochems, and Bill himself, both of whom were early residents in Pico. Bill is now assistant southern district superintendent for Standard; Mr. and Mrs. F. C. Ripley, makers and recorders of petroleum history. He has a marker at CCMO well 2-6 in Fellows, the first gusher in the Midway field, and she is one of the best informed oil historians on the west coast; Mrs. Addi Lyon, granddaughter of Sanford Lyon, driller of the first well in Pico Canyon; Mrs. Florence Prall of Santa Paula; niece of Alex Mentry, driller on Pico No. 4; and Mrs. John Saunders who ran a boarding house in the Canyon at the turn of the century.

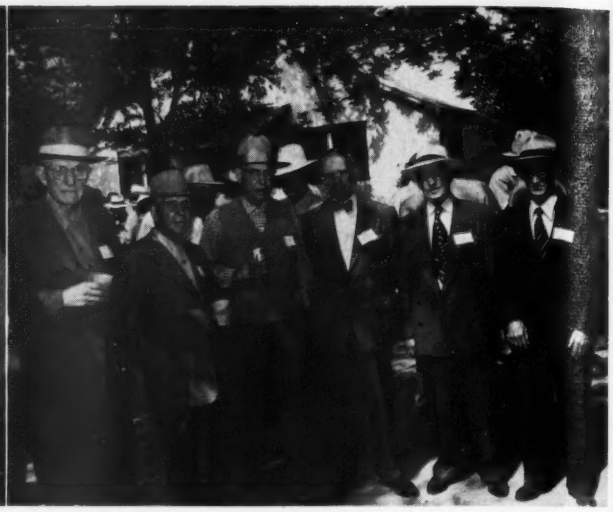
Then there were such noted Standard Oilers as Al Tietze, retired general superintendent of the northern division and a pioneer operator in Pico Canyon; Double O Allen, retired pipe line executive; Matt Powell whose company experience dates back to 1896; Lin Little, first honorary president of PPP and retired general production superintendent; Jud Hillman, past honorary president of PPP, current president of Hillman-Kelley, and descendant of a noted S.O. production executive; Ed Stearns, past honorary president of PPP and now vice president of Universal Consolidated Oil Company; and F. F. Hill, past honorary president of PPP who has a marker in his honor at Hill No. 4 in Lompoc, commemorating the first successful oil well cementing job in the state.

Many other noted pioneers were in attendance and heard elevating talks by Gage Lund, Jules Toussaint, Paul Andrews, and Ben Anderson, each of whom contributed divers aspects of the total story that fitted together into a most interesting pattern. Jules Toussaint, the principal speaker, discoursed very entertainingly and informatively on the history of the well and its

Tom Hickey, Lawrence Baash, Ted Sutter, George Coffey

Ted Cook '07, Bill Cochems '13, Bob Wilson '09, Al Tietze '09, Walton Young 1889, Matt Powell 1897, Lin Little '08

Jim Gosline, Gage Lund, Jules Toussaint, Paul Andrews



Dick Guiberson, A. E. Fowks, Ernie Fowks, P. M. Pike, C. W. Peck, Bill Clark

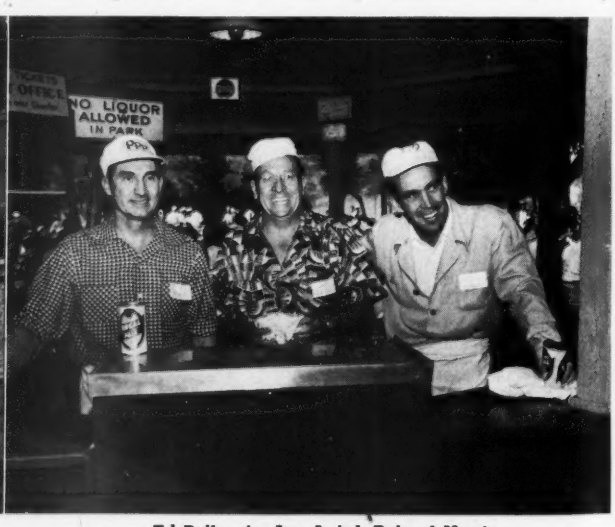
subsequent effect on the development of the industry. He paid high tribute to Mrs. Ripley for providing pertinent historical data, and this lovely lady was also the recipient of generous praise from Paul Andrews for her aid in this and other historical activities of the organization. Indeed, she is now pretty well recognized as historical consultant to the Petroleum Production Pioneers, a title which she well deserves.

The entire ceremony was by all means an impressive affair and Ben Anderson and the other speakers are to be congratulated on their fine performance. Much credit is also due to Warren Johnson, general superintendent of production, southern district, for Standard, and his Newhall aides, Dave Goodwill of Standard, and Ed Erickson and Bill Parks of Newhall Refining Company. Then, of course, we must not forget the grand management of Charlie Reichert whose direction and coordination of all the arrangements for both the dedication service and the subsequent barbecue were as usual "top hole."

After the ceremony was over, approximately 1100 members and guests of PPP assembled at the Saxonia Club and were royally entertained by Hudson Drake, the Belridge purchasing chap and his amazing panel of potion purveyors. Among these were the celebrated Baash-Ross Caledonian, Lee Laird; Frank "Dutch" Lortscher, the peregrinating purchaser from Signal Oil & Gas Company; Ed Pellegrin, the Macco Corporation big game fisherman; Bill Bates, the Shell Oil Company drilling genius; Glen Pitts, the pleasant mannered Republic Supply sales chief; Rudy Schweitzer, Bob Pyle's right arm; Bill Chonette, the Texaco Waltonian; Elmer Wycoff, National Tube's No. 1 domino player; Chuck Ball, the widely known and highly regarded Ball & Black partner; and Jack Freeman, one of the better looking Bethlehemites. These boys had one of the busiest sessions of their long and busy careers but they kicked through nobly and by meal time every thorax at the party was damped just enough but not too much, and a lovely time was had.

Tal Ledbetter, the up-and-coming Union Oil production whiz, Harry

O. A. Allen, Gage Lund, Al Tietze, Wm. Brown, Lin Little, Walton Young, Ted Cook, Bill Cochems, Matt Powell, Bob Wilson, Jim Gosline, Warren Johnson, Jules Toussaint




Ed Pellegrin, Lee Laird, Roland Norris

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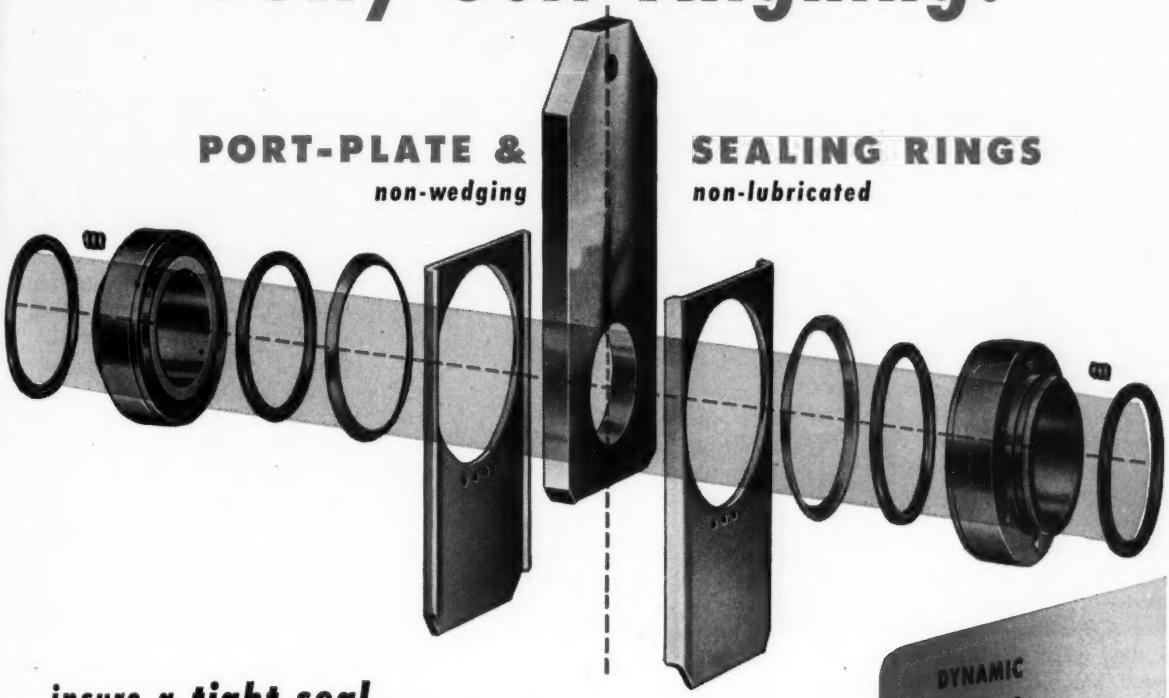

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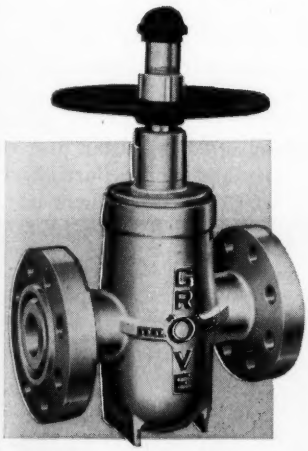


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GROVE SEAL-"O"-RING GATE VALVE

Aggers, the ditto ditto, and their corps of volunteer helpers worked their heads off to see that everyone was fed, and did it, too, despite the fact that there were at least a hundred more people present than even the most optimistic of the arrangers had expected, especially with the AAODC meeting the night before and the CNGA whinding, a Continental picnic and other consequential events taking place on the same day. W. O. "Andy" Anderson and his grounds committeemen were on the job constantly and early and they also contributed generously to the final success, as did Kenny Faulkner, the Texas production expert, and his transportation group. Then there was Ed Stroud and his able assortment of signer uppers, among them such notables as Kenny Dale, Jim and Joe Hickey, Ed Cleveland, Sandy Sarver, Norm Schrank, Kelly Thorpe, and Bob Saxton, all of whom refused to be swamped by the on-rushing battalions and had everyone in the crowded park duly and eventually identified. And sweetening the atmosphere all through the day were the dulcet offerings of that smooth voiced Harvardian, Roy Johnson. It was, no question, a great occasion with a great event being recognized and a great congregation of petroleum pioneers enjoying an hour or two of converse with their own kind.

---

The story that Frank Rehm is about to go into what is laughingly called retirement has emeged from the whispering stage and is now being prominently emblazoned in the public print. This sizable chunk of Sonora manhood has been rampaging through the oil business now for a mere thirty-seven years, all of it with Shell Oil Company, and he has reached high places in the petrolic scheme, largely through an inherent love of people and an inherent capacity to rationalize their problems. Of course, with these characteristics he also has a good academic background. In fact, he is perhaps the only Stanford student in the history of that interesting institution who took a quarter of a century to graduate. This circumstance, it should be noted, was in no way the result of ineptitude. On the contrary, Frank qualified in perfectly good time but in the course of a spring cleaning whingding, his lady love destroyed some of the evidence—a sheaf of geological notes—and the award of the Rehm sheepskin was thereby delayed for a trifling 23 years.

Anyway, Frank did right well without it for a spell, as we have remarked. He began his career as a geologist and wound up a vice president which is a lot more enhancement than our stocks have shown in the same interval of time. Frank is definitely what is known as an oil man's man and as he takes over for the Pacific Oil Institute, succeeding Wendell Thayer, a lot of folk up and down the west coast are going to join us in wishing him a lot of luck. Incidentally, we might point out that the coincidental retirement of Wendell Thayer is no indication of advancing old age. We have it on the best authority that the Thayer scion is merely trying to find more time for dominoes, a species of free enterprise that he has found comfortingly profitable.

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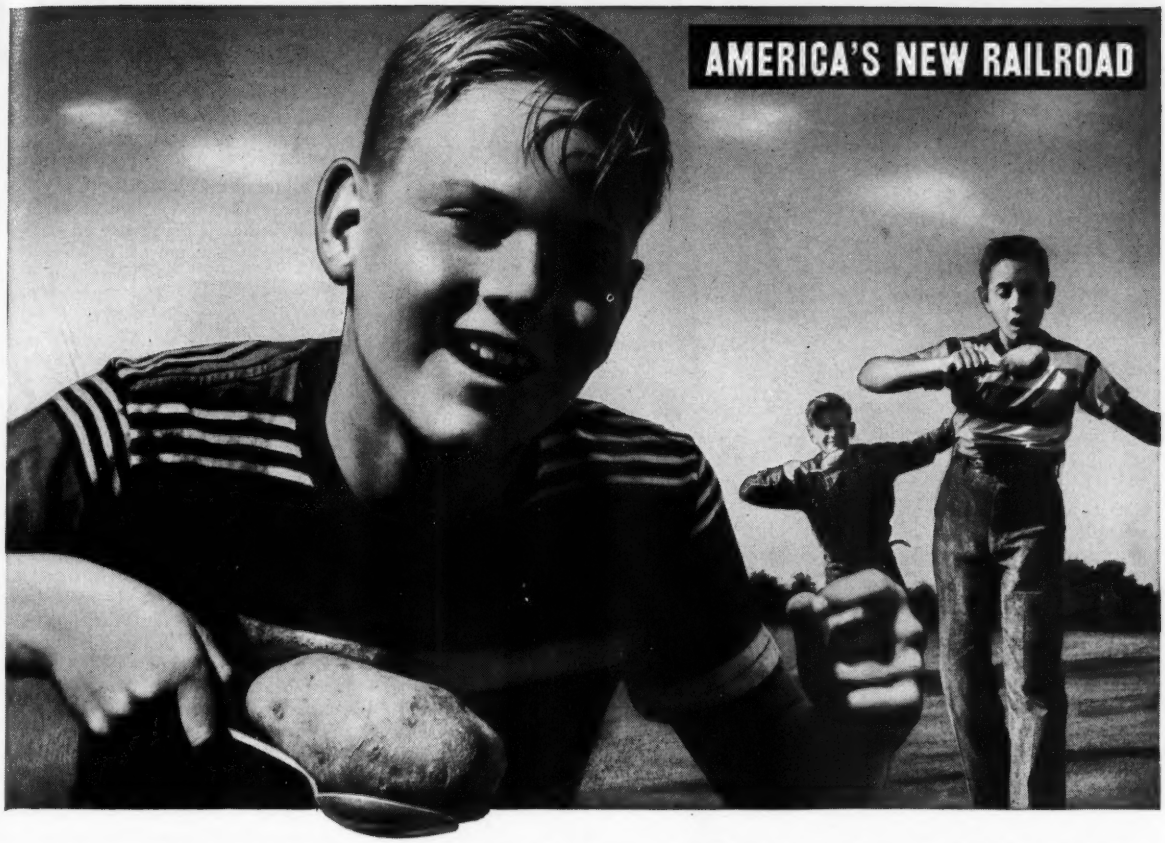
And speaking of dominoes, which we usually are, coupled with Frank Davie, the Shell chap, a short time ago we engaged in a terrific joust with Glen Henderson, the Lufkin larruper, and Bob Kettenburg, another consequential Shellite but lately come from New Amsterdam. This was a ding-dong battle from the opening bell until we sagged to our knees at the end of the fracas, a beaten and embittered old man. Frank, our partner, took the licking philosophically enough, merely biting the ends off all the fingers on his right hand and crying softly into his dessert, but we personally are of the emotional type and if we do say so ourself, before the two gentlemen in the white suits had us back in our straight jacket, they certainly knew they had been in a fight.

---

And continuing this chronicle of disaster, the other afternoon, seeking whom we might devour, we ran into an interesting quartet at the Petroleum Club, to wit, Jim Kelley, the Hillman-Kelley higher-up; Sam Patterson, the good looking Bankliner; Paul Whiteley, the noted Nineteener and Pegasusian procurement whiz; and Eddie Bartosh, an-

Ed Embury, Dick Guiberson

L. to R. around table: John Waggoner, Chas Cosbie, Bob Crum, Bill Bettis, John Flannagan, H. G. Hicks




*A 50-yard dash with a potato on a spoon! An exciting bit of Americana—but it's not the*

# World's Greatest Potato Race

## *That's the 2200-mile dash on the Santa Fe with 1,350,000,000 potatoes*

Somebody east said, "Pass the potatoes!"

Out in California, the fertile San Joaquin Valley heard them. And look what happened.

Santa Fe started moving 14,000 to 15,000 carloads of potatoes to hungry markets all over the Mid-west and East. 36,000 to 40,000 pounds to a carload. As high as 550 carloads per day at peak of harvest. That's more than 1,350,000,000 potatoes. And that's a lot of spuds.

Bag 'em. Load 'em. Roll 'em. And hustle. Somebody east said, "Pass the potatoes!"

### *MARKETS ARE PERISHABLE, TOO*

From America's largest fleet of refrigerator cars owned by an individual railroad, these yellow Santa Fe "reefers" are dispatched to the "Potato Capital of the West."

There the cars are cleaned . . . checked . . . loaded . . . switched. And iced fast (a car a minute, if you please). These potatoes can't wait!

In servicing the cars as they speed east, new icing docks at Bakersfield and Needles, Calif., Belen, N. Mex., Waynoke, Okla., and Kansas City work the clock around. Electronically-controlled "hump" yards speed the switching.

### *SANTA FE PRECISION—SANTA FE SPEED*

On-time delivery calls for full-time precision to keep these schedules "on the advertised."

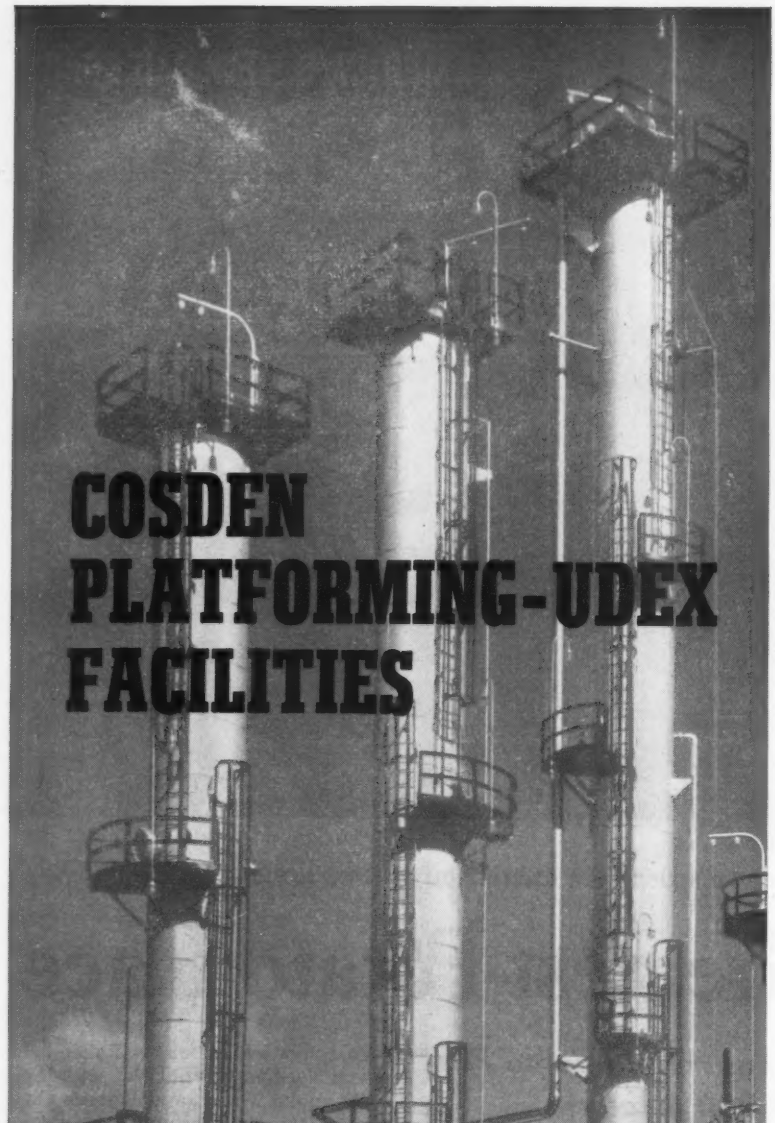
After the potatoes come the wheat . . . citrus fruits . . . grapes . . . melons . . . and green vegetables all year long—flooding east from Santa Fe country to you. Everything from avocados to zucchini.

It costs Santa Fe millions of dollars to serve you so—and provide you with Super Chiefs, too! But we're proud to say they are earned dollars. Not one penny comes from the taxes you pay.

*SANTA FE SYSTEM LINES*

Santa Fe

## PROGRESS THAT PAYS ITS OWN WAY




# Platformer-Udex Gives Cosden Superior Benzene

By R. L. Tollett, President
Cosden Petroleum Corporation

Benzene of exceptionally high quality which easily meets nitration grade specifications is being turned out consistently by the new Platformer-Udex combination at our Big Spring, Texas, refinery.

R. L. Tollett

Not only is the superior quality of this aromatic being maintained, but top-grade toluene and xylenes also are being produced by the new unit. This enviable situation has been brought about without sacrificing the quality of our premium gasoline of which we are so proud.

Production of the nitration grade aromatics marks a colorful milestone in the history of Cosden Petroleum Corporation, and is part of a major expansion program aimed at diversification of products. After a careful study of the potential market for aromatics, we reached a decision to launch this new program. The most important factor we had to consider was how to produce and separate these aromatics while maintaining our production of premium quality gasolines. This required upgrading the heavy 270-400 degree F. naphtha fraction remaining after processing of the 150 degree F. to 270 degree F. fraction for aromatic production.

## Choose Platformer-Udex

Once the decision was made to produce the three aromatics, we faced another problem—that of finding the process best suited for the double-barreled job we wanted to do. After exhaustive investigation, our engineers were convinced that Universal Oil Products Company's Platforming Process and the Udex Process originated by Dow Chemical Company and engineered and licensed by UOP formed the perfect solution to our needs.

Procon Incorporated of Des Plaines, Ill., was selected to construct the Platformer-Udex combination. Procon completed the job in eleven months, and also built accessory processing equipment, roadways, and buildings. I am happy to report that all work was done with maximum efficiency, and labor costs for the entire job fell quite a bit below preconstruction estimates.

Our decision to install the Platformer-Udex has paid rich dividends from the very first day it went on-stream, September 14, 1952.

Since the Platformer went on-stream, it has made a number of cycles on the blocked-out operation which was set up by Universal's engineers, and the

catalyst activity has been uniformly high. The first run is still in progress at a current catalyst life of 55 barrels a pound.

Cosden is processing a mixture of West Texas crudes totaling 22,500 barrels a day. The technical aspects of our new unit's operations are, I believe, of wide-spread interest and I would like to outline them here.

### How Units Operate

The total straight run gasoline is fractionated in a series of three towers to prepare the individual naphtha fractions as feed for the Platforming unit and to stabilize the light fraction of the straight run.

A depentanizer is the first tower in the feed preparation section, and it takes overhead the pentane and lighter fractions which are then sent to the light straight run stabilizer for depropanization. The bottoms from the depentanizer are then pumped to a charge splitter which separates the depentanized straight run gasoline into an overhead 150 degree F. to 270 degree F. fraction and a bottoms 270 degree F. to 400 degree F. fraction. The individual fractions are then sent to intermediate floating roof storage from whence they are charged to the Platforming unit.

On the alternate Platforming unit operating cycle for motor fuel production the unit is fed with the heavy naphtha cut of 270 degrees F. to 400 degrees F. boiling range. Balancing the motor fuel operation with the aromatics operation and processing the available naphtha, the charge to the unit during the motor fuel operation has been approximately 4,500 barrels a day.

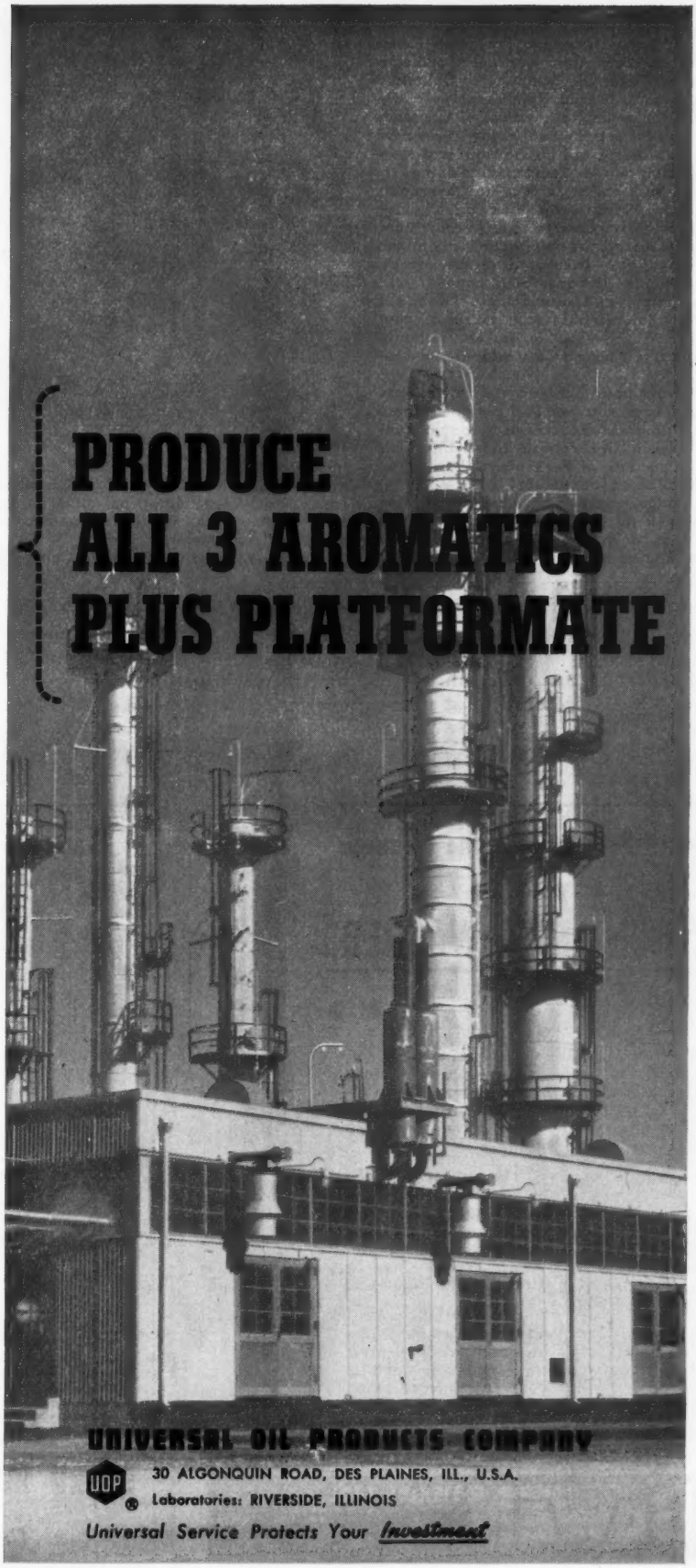
Motor fuel operating conditions have been controlled to the point where they produce a stabilized Platformate having a leaded F-1 octane number of 95 to 95.5. We have found that the yield of stabilized Platformate at this octane number level has been 94.5 to 95.5 volume per cent of the charge.

### High Aromatic Yield

When the Platforming unit is operating to produce aromatics for charging to the extraction unit, it is charged with the 150 degree F. to 270 degree F. prefractionated stock from storage. The average charge rate during the aromatic operation to balance the time schedule on the blocked-out operation and to consume the available charge stock has been about 3,300 barrels a day.

We have discovered from tests made on the charge and product from this operation that the yield of total aromatics is 94.5 per cent of the aromatics present in the charge and corresponding to the naphthenes in the charge.

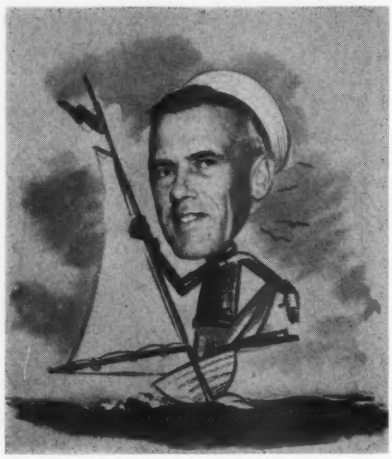
The Udex unit has been running continuously since September 14, charging the aromatic product from the Platforming unit at a rate averaging 1,600 barrels a day.



**A NATIVE SON OF A NATIVE SON**

**Quite some time ago we were rather closely associated in our daily ministrations for Union Oil Company of California with a chap named Holt Gregory—a distinctly consequential member of the lands and leasing department. Holt was a native son, so was the girl he married, and there was little of the Company's holdings or history with which he was not thoroughly familiar. Being even then an aspiring scribe, we touched Gregory major frequently for bits of information about this and that, and discovered in the process that despite his absorbing concern with lease terms and terminology, he had a primary interest that superseded all that, to wit, a son—Jim, or James Nathaniel Gregory, to give him his unabridged handle.**

**Jim was born in Sierra Madre, the wistaria village, and we had periodic reports of his progress thenceforth, through grammar school, high school, and finally California Institute of Technology, from which he graduated about 1934 with a B.S. in mechanical engineering. Thereafter he was employed for a time by Union Oil Company as a gauger and roustabout, but there was no satisfaction for his engineering genius in these activities and he switched over to Globe Oil Tool Company where, as a heat treater, he added to his oil lore some of the interesting metallurgy of oil tool manufacture.**



**In 1936 he joined the Shell Oil Company as a rotary helper and thence through a series of well-earned promotions eventually became superintendent of southern division drilling and production operations. Part of his earlier experience with Shell included a year in Texas and another year in Canada, and altogether the practical experience gained over approximately 20 years together with his work in API and AIME brought him general recognition as one of the top engineers of the profession. In 1952 Jim accepted a post as vice president in charge of field operations for Terminal Drilling and Production Company, and he is still officiating admirably in this capacity.**

**He is a tall, somewhat reticent, almost bashful sort of a chap, with a keen sense of logic and a fine flair for the resolution of mechanical problems. In his spare moments, he indulges in "rag" racing (as distinguished from the putt-putt variety), and is reputed to haul a main halyard or keelhaul a landlubber with a nice nautical nonchalance. He is a popular member of Petroleum Production Pioneers and the Petroleum Club, and, given a slide rule and a protractor can make even the most experienced domino sharpie pull in his chin considerably.**

---

other member of the Bankline upper crust. We barged into this assembly, made it a fivesome for lunch, and the welter of conversation that ensued was more nutritional than a bowl of wheaties. While we were deeply engrossed in a dissertation on graphic statics or something equally pretentious, up comes Fred Behrens, the Wilshire polymerizer, looking furtively to right and left and then whispering huskily out of the far corner of his mouth that we should jointly and severally rest our futures on the velvet nose of a quadruped, entitled Morning Glory. (Please note, the correct name of this marsupial is being withheld to save other members of its family unnecessary embarrassment.)

---

After reading in the late papers how badly our futures would have been bent by such an investment,


**Quick Production Zone Cleanups with the**

**BOWEN LINER WASHER!**

Positive high pressure washing action of the Bowen Liner Washer—plus the return circulation feature—enables you to completely remove sand and inert material from behind the liner—on just one trip **into the hole!**

Operation is simple. The washer is moved up the liner in easy stages, and at each setting a section of the liner is packed off to permit concentration of pressure through the tool and out through the perforations at that point. Pressure can be built until circulation is established—an important point.

Bowen Liner Washers are available in a full range of sizes from your nearest Bowen Service Store—which is open 24 hours a day for your convenience. Next time—call Bowen!

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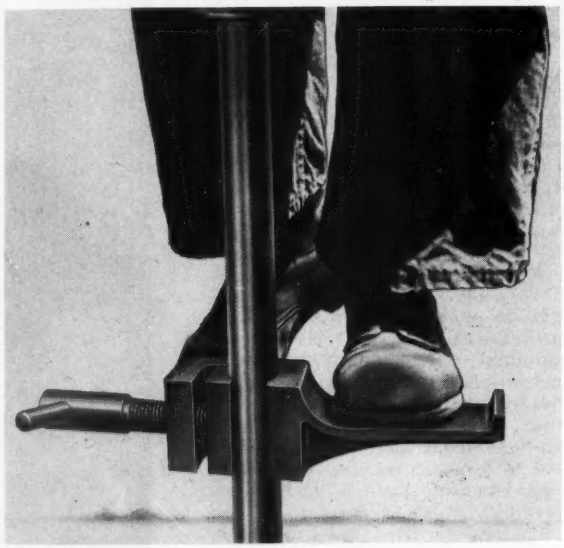
**Baird Polish Rod Safety Step**



**A safety device designed to prevent accidents—**
**1. While attaching pony rod and elevators preparatory to pulling rods or loosening clamp.**
**2. While greasing hanger heads.**
**Made of cast steel.**
***Available through your supply store.**

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**TULSA, OKLAHOMA**

# BAKER

## offers 3 ranges of

# Hinge-Lok Casing Centralizers

**...to provide ample all-around cementing space for all casing programs, regardless of varying hole sizes or conditions.**

**"REACH" (Bowed Height) IS THE VITAL FACTOR** All Baker HINGE-LOK Casing Centralizers have greater reach (or bowed height) of springs in corresponding ranges than any other casing centralizers on the market. Increased reach means adequate, all-around cementing space, even though the hole size may vary considerably from the drill bit size.

**WHY REACH IS NEEDED** In oversize sections of open hole, centralizers with insufficient reach frequently fail to contact the wall of the hole and thus perform no work. As a result, adjacent centralizers above and below can be so overburdened that casing-to-wall contact is apt to occur. The end result is likely to be a poor cement job at any such point of contact.
The increased *reach* of Baker HINGE-LOK Casing Centralizers ensures that each centralizer will contact the wall of the hole within its range and will contribute its share toward an effective centering job.

**MAXIMUM STRENGTH** The engineered bow shape of the centralizer springs provides *greater landed centering force* than can be obtained from any other available hinge-type centralizer covering the same range of open hole sizes.

**YOUR CHOICE OF THREE RANGES** Choose the bowed height of spring best suited to meet the centering problem of your specific program. (See description of ranges, below.)

**EXTRA FEATURES**

- *HINGED FOR EASY MOUNTING*
- *ALL SPRINGS WORK TOGETHER*
- *UNLIMITED ROTATION OF CASING*
- *EASY STARTING WITHOUT SNUBBING*
- *ALWAYS PULLED—NEVER PUSHED*

**BAKER MODEL "H" Hinge-Lok Casing Centralizers**

**20-RANGE**
Product No. 9112
For LESS-THAN-NORMAL CLEARANCE where no problem of over-size or irregular hole is anticipated.

**25-RANGE**
Product No. 9113
For NORMAL CLEARANCE, where no serious problem of over-size or irregular hole is anticipated.

**SUPER-RANGE**
Product No. 9114
For GREATER-THAN-NORMAL CLEARANCE or where extensive hole irregularities are anticipated in otherwise normal clearance.

*Call Baker for Centralizer Service*

**BAKER OIL TOOLS, INC.** HOUSTON • LOS ANGELES • NEW YORK

we sat by the radio expecting any minute to hear that a small group of prominent oil men had hurled themselves from the roof of the City Hall. Up to the moment, however, nothing of that sort has happened so we conclude that the other boys also decided to leave their respective war bonds in their respective strong boxes and let old Morning Glory romp without the handicap of an overloaded nose. By the way, an expert in such matters tells us that Morning Glory will next compete in the Frog Derby at Calaveras and looks like a fairly safe place bet.

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Over the years, it has been our good fortune to know rather well, the tall, pleasantly disposed, and very competent young lady, Jeannette Funston, who will officiate for the next year as president of the Los Angeles chapter of the Desk & Derrick Club. She was born in Racine, Wisconsin, but at the age of eight migrated to Coral Gables, Florida, taking with her a little sister and her parents. There they searched eagerly for oil wells in the Everglades but never sighted a derrick, so they lighted out for California, landed in Los Angeles in 1942, and have never regretted it for a minute. Jeannette started work here as secretary to Howard Pyle when he was vice president of the Bank of America in charge of oil loans; followed him to Continental Consolidated Corporation when he was elected to the presidency of that organization; and still handles his correspondence and his calls now that he is the top executive of Monterey Oil Company.

During these perambulations, Jeannette has acquired a pretty broad understanding of petroluem institutional and operations affairs and has come to know a great many of the West's higher echelon oil personnel either in actuality or by repute. She was also with Howard Pyle when he was treasurer of the Petroleum Club and thereby added distinctly to her knowledge of the habits and haunts of **homo petroleumensis.** She has been a devoted worker for D & D in all its causes from the moment it was first opened to general membership about June, 1950, and in 1951 she was appointed a member of the field trip committee, an assignment that she found both educational and entertaining.

She was named recording secretary and a director in 1952 and, as is now well known, was this year elected to the highest office in the chapter. There is no question of her fitness for this highly responsible post. Jeannette has absorbed much of the executive talent with which she has been surrounded during the last decade, and she has an inherent good judgment of her own that well assures the success of local D & D operations for the next year. Away from the office she devotes herself to such feminine pursuits as cooking and sewing and we are told that she can baste a pot roast or a new dress with rare expertness.

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While we are in this neighborhood, we might remark that there has just been graduated from Stanford University in petroleum engineering, a stalwart young blond, named Carter Pyle, who one of these fine days will be taking his place among the petrolic people. For the nonce, however, he has a date with the U. S. Navy that may keep him otherwise occupied for the next two years. Carter is, of course, the son of Howard, and did right well for himself at college, both academically and athletically. He wears a beautiful gold watch, awarded for his performance as defensive tackle in the famed Stanford-Illinois Rose Bowl classic of 1952. We wouldn't want it to get around but it looks suspiciously like as if the score as inscribed on this memento has been tampered with to give Stanford a much improved status. Carter is a husky 210 pounder who rides the surf with all the poise of a South Sea Islander and we expect that when the time comes, he will tackle the oil industry with the same vigor and determination as he displayed when charging an opposing lineman on the football field.


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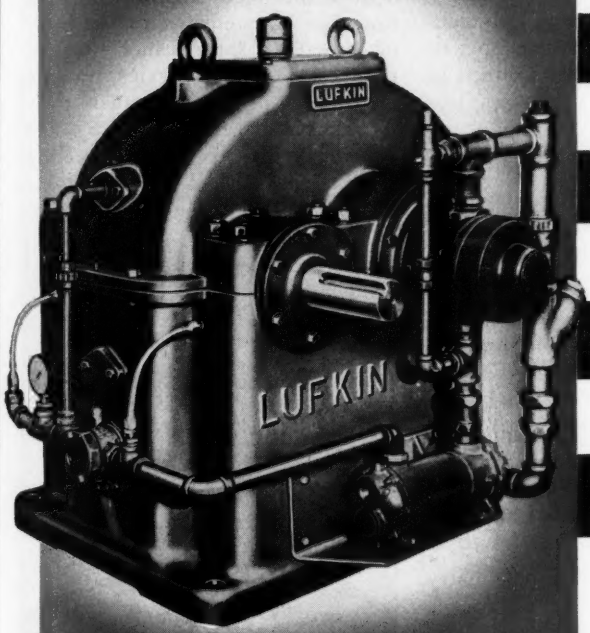



LUFKIN, TYPE N "HIGH SPEED"

**ANY SIZE**
3 TO 2000 H. P.

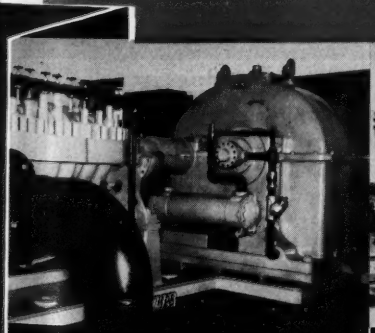
**ANY SPEED**
0 TO 12,000 R. P. M.

**ANY RATIO**
1 TO 1 TO 70 TO 1

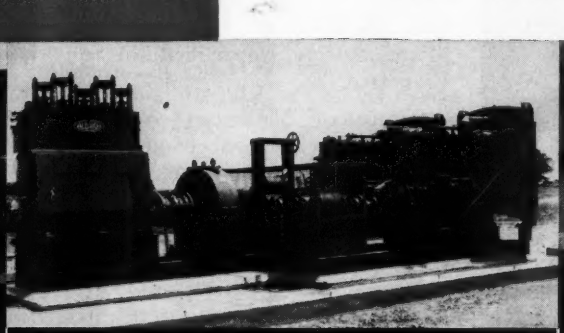
**ANY JOB**

WHERE SPEED IS REDUCED OR INCREASED . . . . . .

**Eighty Different Sizes From Which To Choose**



PIPELINE PUMP



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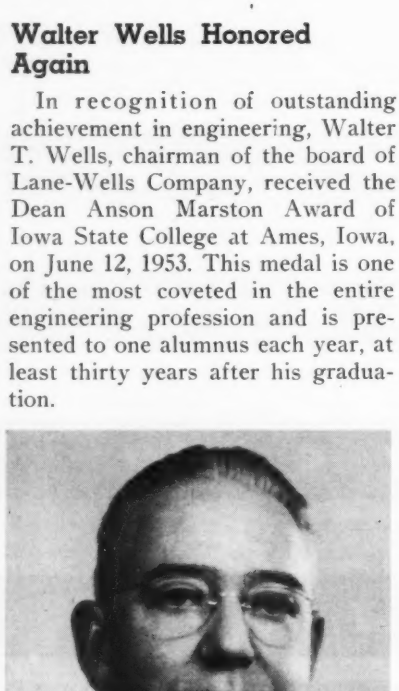
# Personalities IN THE NEWS

## Walter Wells Honored Again

In recognition of outstanding achievement in engineering, Walter T. Wells, chairman of the board of Lane-Wells Company, received the Dean Anson Marston Award of Iowa State College at Ames, Iowa, on June 12, 1953. This medal is one of the most coveted in the entire engineering profession and is presented to one alumnus each year, at least thirty years after his graduation.



Walter Wells

On June 20, 1953, Mr. Wells received an honorary degree of Master of Public Service from State Polytechnic College at San Luis Obispo, California. This is in recognition of the many services he has made in behalf of Cal Poly and education in general.

In June, 1946, Mr. Wells received the Chicago Alumni Association merit award of Iowa State College, given each year to an outstanding alumnus in engineering. On February 21, 1952, West Coast University conferred an honorary degree of Doctor of Science on him for distinguished service in the advancement of engineering education. He is a member of the State College Council representing California Polytechnic College and is also a member of the President's Advisory Council of George Pepperdine College, Los Angeles.

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## Miller Takes Over at Richmond Refining

M. F. Miller has been appointed Manager of Operations for the Richmond (California) refinery of Standard Oil Company of California.

He succeeds J. T. Higgins, recently elected president of two Standard subsidiaries, Salt Lake Refining Company and Salt Lake Pipe Line Company.

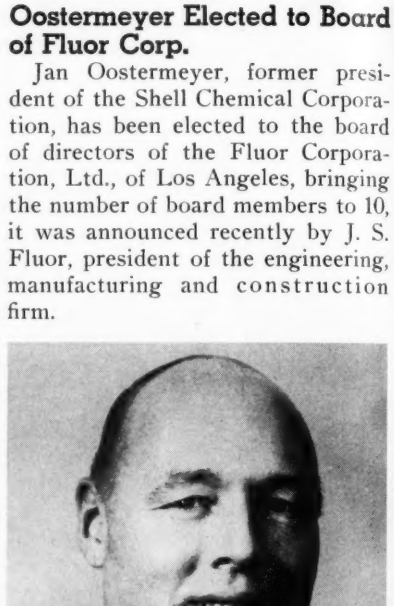
Miller, a graduate in chemistry from the University of California, joined Standard in 1926, immediately after completing college. Prior to his new assignment he served as assistant manager, Operations Control Division, of the company's Manufacturing Department in San Francisco.

Succeeding Miller will be J. S. Detweiler, who has been technical assistant in the Operations Control Division in San Francisco. He joined the company in 1934 and holds a B.S. degree in chemical engineering from California Institute of Technology.

Also appointed a new assistant manager of the same division was T. M. Sheehy, previously assistant superintendent of the Light Oil Division at El Segundo Refinery. Sheehy joined Standard in 1937 after receiving his master's degree in chemical engineering from the University of Washington.

## Oostermeyer Elected to Board of Fluor Corp.

Jan Oostermeyer, former president of the Shell Chemical Corporation, has been elected to the board of directors of the Fluor Corporation, Ltd., of Los Angeles, bringing the number of board members to 10, it was announced recently by J. S. Fluor, president of the engineering, manufacturing and construction firm.



Jan Oostermeyer

Oostermeyer's retirement from Shell was announced June 1. Born in Amersfoort, Holland, he began his oil industry career in 1917 with the Asiatic Petroleum Company in China. He spent 20 years in the Orient, before taking up new duties as assistant manager for Shell at Santiago, Chile, in 1937.

In 1939, he became assistant to the president of what was then the Shell Chemical Company. He was named vice-president a year later, and advanced to the presidency in 1942. The firm was absorbed as the chemical division of Shell Union Oil Corporation in 1943, and Oostermeyer became executive vice-presi-

dent. Shell Chemical Corporation was recreated in 1946 as a separate and autonomous concern, with Oostermeyer as president.

Although the new Fluor director now resides in New York City, he is building a home in Phoenix, Ariz.

Oostermeyer was responsible for and guided the huge $50 million Shell petroleum chemicals expansion program, including the first commercial production of synthetic glycerine. For its work in this field, Shell was awarded the Chemical Engineering Achievement Award in 1948.

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## Tide Water Associated Employee Wins Major Suggestion Award

Richard P. Bland, employee of Tide Water Associated's Western Division has received a substantial cash award for a suggestion submitted during 1952 under the Company's Suggestion Plan.

Bland, a resident of Ventura, California, received second place recognition in the Company's National Suggestion Plan and was awarded a total of $750.00 in this competition. Previously Mr. Bland was awarded a cash prize for the first Capital Award in the Western Division, in addition to the original award for his suggestion. These awards netted him a total of $1,350.00 for his prize winning suggestion. Bland, lives at 72 W. Warner Street, Ventura, California, and has been in the employ of the Company for more than sixteen years.

The presentation of the cash award to Mr. Bland was made by L. F. Bayer, Vice President and Chairman Western Division Operating Committee, at a luncheon held in San Francisco.

**Left to right: R. P. Bland, Second National Capital Award Winner under Suggestion Plan; and L. F. Bayer, Vice President and Chairman Operating Committee.**

The first place National Award winner was John Barber, a member of the Company's Eastern Division, Manufacturing Department.

Other capital award winners in the Company's Western Division were W. D. Sparks, Ventura, California; T. Northcutt, Concord, California; M. C. Lopes and P. S. Hawthorne, Port Chicago, California.

The Suggestion Plan of Tide Water Associated Oil Company is open to Company employees, and cash awards are made during each year to employees submitting adopted suggestions to improve business, operations, or service.

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## L. L. Wilfong Retires

L. L. (Lem) Willfong has announced his retirement, effective June 1, as Vice President and Plant Manager of the Earle M. Jorgensen Co.—Forge Division. Los Angeles. One of the real old timers of forging, he has completed exactly 56 years in the metal working industry.

Lem began his career in the forge shop of the original Carnegie Steel Company of Homestead, Pennsylvania—as an apprentice hammersmith at a wage of 14c an hour—and for 20 years he worked at various plants in the Pittsburgh area. In 1917, while serving as heater foreman at the Clairton plant of the U.S. Steel Corporation, Lem heard the call of the West and moved to California. In 1919, he became head of the Forge Division of the Southern California Iron and Steel Company in Los Angeles, which was subsequently taken over by the Pacific Coast Steel Company, and eventually absorbed by Bethlehem.

Willfong remained with the forge plant through these changes in ownership, and when the Jorgensen Company bought the 1,000-ton steam hydraulic forge press and auxiliary equipment now in use in its Los Angeles plant from Bethlehem in the early days of World War II, Lem came along to take charge of the Forge Division. It is largely because of his background in the hard but good school of experience that Jorgensen forgings have gained renown for their quality and extreme accuracy. Under forging procedures he has established through the years, large round bars are pressed so smooth that they are often mistaken for rolled bars. Heavy kelly bar and drill collar forgings produced in the Jorgensen plant are well known among oil tool people for their extreme accuracy and metallurgical soundness.

Now in his 75th year, Lem expects to have no trouble keeping busy. Although away from the activity of a large plant, he won't abandon his interest in forging, because in his home workshop, he will pursue his hobby of ornamental iron work. This, with gardening and fishing, will give him plenty to do for years to come. Willfong's duties as plant manager of the Jorgensen Forge Division are being assumed by Edmund W. Andrew, until recently assistant superintendent of Bethlehem Steel Company's drop forge shop at Bethlehem, Pennsylvania.

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Directors of Seaboard Oil Company of Delaware have elected Russell S. McFarland, president, succeeding John M. Lovejoy, who became chairman of the board and chief executive officer. James P. Gasser was elected executive vice president, the position formerly held by McFarland. Owen L. Hill was elected treasurer, succeeding E. J. Walker, who is retiring. Lovejoy has served Seaboard as president since 1930.

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"Human and Public Relations" was the topic of an address by E. S. Hochuli, director of industrial relations for General Petroleum, at the regular meeting of the Los Angeles Retail Credit Association at the Los Angeles Clark Hotel.

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Newton Bass, veteran California oil producer, breezed in from his ranch home in Apple Valley to attend the premiere of "The Great Waltz" at the Los Angeles Philharmonic Auditorium. Star John Charles Thomas and Newt are old friends.

## Link-Belt Promotes Eastling and Thal

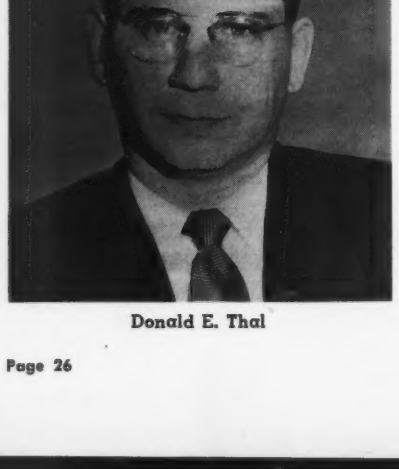
Link-Belt Company has appointed Harvey V. Eastling assistant general manager of its Pacific Division, with headquarters at San Francisco.

**Harvey V. Eastling**

Mr. Eastling, heretofore general sales manager for the Pacific Division, started his Link-Belt career in 1925 as chief draftsman at San Francisco. He has served as chief engineer at San Francisco; manager, engineering sales, at Seattle, and general sales manager of the Pacific Division.

Also announced is the appointment of Donald E. Thal as sales manager of the San Francisco plant.

Mr. Thal studied mechanical engineering at the University of Illinois and Massachusetts Institute of Technology, and has since 1935 been employed in Link-Belt engineering departments at the Caldwell plant in Chicago, the Seattle plant and the San Francisco plant. He has more recently served as asst. sales manager at San Francisco.



**Donald E. Thal**

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## Hamaker Observes 25th Anniversary With Reed

Rex G. Hamaker's quarter of a century with Reed Roller Bit Company of Houston was marked this week by the presentation of a 25-year service award by S. P. Farish, president of the Company. Mr. Hamaker is vice president in charge of sales.

A graduate of the oil fields and a pioneer in the oil tool business, Mr. Hamaker's 25 years with Reed extend over a time of tremendous progress by the company. When he joined Reed in 1928, for example, the company's shops and offices occupied 35,000 square feet on a small, triangular 11-acre tract along Navigation Blvd. Today plant facilities and offices occupy almost a half million square feet on 35 acres.

Mr. Hamaker has seen sales top $30,000,000 as they did in 1952, 35 times company sales when he joined the organization. Company assets in the same 25-year period have increased from slightly over $1,000,000 to nearly $22,000,000.

Mr. Farish, president of Reed Roller Bit since 1925 when he and a group of other men bought and reorganized the company, brought Mr. Hamaker from the Humble Oil and Refining Company in 1928. The two men had been associated since 1919 when both worked at Ranger for Humble, Mr. Farish as head of Humble's northern district and Mr. Hamaker as his district engineer. In 1920 Mr. Hamaker was moved to Houston as Humble Oil's first chief engineer.

In his 37 years in the oil industry, Mr. Hamaker has seen many changes take place, altering the face of the entire industry. Before joining Humble in 1919, he had been with Standard Oil Company of California as machine shop draftsman, construction engineer, and well cementing engineer, the first man so far as he knows to hold that title since those were the earliest days of well cementing.

Mr. Hamaker has seen the oil industry evolve from chaos and confusion to an orderly, stable industry, strengthened by sound conservation practices instead of the ruinous periods of alternate feast and famine.

**Rex G. Hamaker**

In his years in the oil industry Mr. Hamaker's duties have carried him to every part of the country and to the many parts of the world where there is oil activity. He became one of the earliest members of Nomads, an organization of men in the oil industry who have been active outside the United States, and was one of the organizers and the first president of the Houston chapter. He is active in the local Shrine organization.

Mr. and Mrs. Hamaker live at 2240 Looscan. They have two children, Barbara, Mrs. Worth Bartlett, and Rex, a student at the University of Arizona.

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Hugh M. Allen has joined Ted Easton and Lev Sacre's consulting firm of Easton & Sacre. Allen formerly was superintendent of Anchor Oil Company and earlier was with Western Geophysical Company before joining Anchor in 1940. He is a graduate of the University of Washington. His headquarter office will be in Bakersfield.

## Adman Christopher Completes Course in Petroleum Engineering

After eighteen weeks of brain whirling confusion, Jim Christopher emerges from a course in petroleum engineering with the most profound respect for the profession. He is a partner of Hill & Christopher, Los Angeles, advertising agency for Halliburton Oil Well Cementing Company and other petroleum service companies.

**Jim Christopher**

Christopher claims that advertising skill needs to be supplemented by specialized training to create selling ads for an industry as complex as the oil business. Bill Graydon, H-C copy writer, will attend the class next Fall.

The basic course in petroleum engineering was given at University of California by Max Taves, Richfield Oil Company engineer. It covers the field from geology to reservoir engineering.

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A half-century of continuous service has been rounded out by L. E. (Kim) Foust, Tide Water Associated Oil Company, land agent in San Joaquin Valley. Foust, a Bakersfield resident, was presented with a service pin and wrist watch by L. F. Bayer, vice president and chairman of the operating committee. Foust is the third employee of the company's western division to complete 50 years service.

The board of directors of Westates Petroleum Company of San Francisco has been increased from seven to nine members, and Harry W. Abruns of General American Oil Company and Clair V. Goodwin of Blair Holding Corporation have been elected to the board.

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Walter K. Link, chief geologist in the exploration branch of Standard of New Jersey, will become exploration adviser to International Petroleum Company, Ltd., on August 1. International is controlled by Jersey Standard.

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Signal Oil & Gas Company's Percy Halbriter is reported making excellent progress in recovery from severe injuries from a recent auto accident. He is under treatment at the Hospital of the Good Samaritan in Los Angeles.

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Jacob P. Harper, Harper Engineering Company, heads a Beverly Hills and Vancouver, B.C. group which recently acquired control of Caliph Petroleums, Ltd., Vancouver.

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A day or two after flying back from a vacation in Honolulu, Oilman George Atha decided to try his luck at the Hollywood Race Track. His success with the bangtails needs no more attestation than the fact that he held a winning ticket on Day-Bric, which paid a soul-satisfying $231.40 for $2.

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It may have escaped the notice of those not in attendance at the recent International Petroleum Exposition in Tulsa that an outstanding event of the show was the naming of Edwin B. Reeser as the "Grand Old Man of Refining" by the exposition's Old Timers Committee. Reeser retired July 31, 1943, as president of the former Barnsdall Oil Company, now Sunray, which he had guided since 1925. His more than 62 years experience in the petroleum industry included all major branches of the business. The I.P.E. recognition and reward medal, however, was presented to him with particular emphasis on the part that he and the former Barnsdall organization played in the development of the great American refining industry.

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Oilmen Edward R. Valentine, Thomas P. Pike and Alphonzo Bell, Jr., were among those in charge of the Republican party fund-raising dinner at the Hollywood Palladium.

**Dick Winder (left) and Joe Schlarb (right) both of Chiksan Company are here shown inducting new members into the Los Angeles Chapter of Nomads at the regular monthly dinner meeting June 10, 1953. The new members are, from left to right, Tom R. Ashe of Globe Oil Tools Company; Harry M. Taylor of Bettis Rubber Company; Bill Brooks of Byron Jackson Company; and Allen Hicks of Hydril Company.**

# With Drilling Contractors

It is not known at this writing whether or not the crude oil price boost placed in effect in other oil producing states is likely to soon be contagious enough to spread to California. Be that as it may, contractors in the Mid-Continent and Rocky Mountain regions viewed the price rise as the best news in years. They have pointed to increased labor and material costs as justifying higher posting, particularly in consideration of the declining value of the dollar. Many operators anticipate before long a revision upward of crude oil prices in California. Clayton Severns, 50 years in the oil business and for 40 years a leading California contract driller and producer, said that if this does not soon become a reality, producers in other states will find no inducement to continue moving their crude oil to the West Coast to supplement California supplies. He called attention to the fact that until the new posting in other states, California prices were higher than in the Mid-Continent and Rocky Mountain regions. Now that prices are in balance, he stated, California necessarily must offer more for oil if adequate amounts are to be on hand to satisfy consumptive demand. Commenting on production cutbacks in states other than California, Severns remarked that if there is no monetary factor compensating for these slashes, the average independent operator will certainly not be in a safe economic position to assume the burden of exploration work and the development of new reserves. As a result of the higher crude oil prices, gasoline prices at the service station pump have jumped about one cent a gallon.

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Thomas P. Pike, Pike Drilling Company president and sole western trustee for the Council of Profit-Sharing Industries, announces formation of a California chapter of the council. New offices have been opened for the chapter in Pasadena, with John C. O'Keefe, field secretary.

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Union Oil Company, gifted with extraordinary foresightedness ever since incorporation in 1890 and one of the first operating organizations in the country to assign all of its drilling to established contractors, at present is keeping 18 strings of contract tools busy in California, including one repair crew. A striking example of the skill and efficiency of the contractor is given by Union's continuing success in fields in California and elsewhere. The company holds oil and gas producing properties in California, Louisiana, Texas, Montana, Wyoming, New Mexico and Canada. It also owns a major source of raw material supply in oil shale lands in Colorado. Natural gas reserves of the company are located mainly in Tigre Lagoon, West White Lake, Houma and Fresh Water Bayou fields in Louisiana and in western Canada. Prospective oil lands and exploration rights are held by the company in California, Texas, Louisiana, Nevada, Washington, Oregon, Kansas, Montana, Wyoming, Utah, Colorado, New Mexico, Mississippi, Arkansas, Oklahoma, Nebraska and North and South Dakota and Canada, Costa Rica, Colombia and Peru. Union boasts exclusive exploratory rights to some 3,000,000 acres in the province of Limon and Guanacaste, Costa Rica. Geophysical work is expected to start there in the near future. The company has worked out an agreement calling for the exploration and development of a region in excess of 500,000 acres of prospective oil ground under a Peruvian Government concession in the Sechura Desert area of northern-coastal Peru.

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The Canadian Association of Oil Well Drilling Contractors reported that during May wells were completed in western Canada areas at the rate of five daily. During the first five months of the year current, the association made known that a total of 753 wells were put down, of which 436 were oilers, 55 gassers and 262 dusters. Drilling is on the increase on the Canadian plains with half again as many rigs active as a month ago.

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Al Dysart, Chuck Kemp and Chuck Henritte, Brown Drilling Company, are in the Learmonth area of Australia, where they are engaged on work preliminary to an important drilling campaign. Brown's equipment and records suffered damage in a recent storm and are being placed in proper order. These members of the Brown organization now in the country "down-under" are familiar to work in foreign climes and have every capability to push the campaign in view to a successful conclusion.

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Among current Green & Heiser contracts jobs are Standard's Derby No. 522-16D at Buena Vista and Fugler No. 4-10 at North Cat Canyon. The contractor is also putting down The Texas Company's Signal-Hancock Christensen No. 1 at North Livermore and has a repair crew working on Shell's KCL-A No. 41-29 at Ten Section.

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Forest Dahl is toolpusher for Argo Drilling Company, which is drilling Havenstrite Oil Company's Carter-Jim Well No. 1 in Purissima Hills. On the McDonald Anticline, Mitt Lynch is in charge for Argo on Humble Oil's Bacon No. 1.

# Field Development

## Blackwells Corner Drilling Play Impends

A new drilling campaign in the Blackwells Corner area has been indicated by Shell Oil's action in taking more than 1000 acres from the S. & G. Gump Company. The ground was leased for a term of four years and it spreads over all of Sec. 25-26s-19e and in a portion of Sec. 30-26s-20e. Shell also has under lease 80 acres of the Verna C Hagen land in Sec. 24-26s-19e, Kern County. The property controlled by Shell is no great distance east of several wells put down by Superior Oil Company some years ago to unproductive depths. Four miles west of the Blackwells Corner field, Signal Oil & Gas Company recently acquired prospective ground in Secs. 28, 29 and 33-26s-18e.

The Rosedale Ranch field apparently is taking on a hue of importance after eight years of mediocrity. At the turn of the year the field contained only two wells producing and not much oil at that. Standard changed the aspect of the field since then by completing an outpost project for 200 barrels a day or more. Building success upon success, the company the other week brought to conclusion KCL No. 31-23 on Sec. 1-29s-26e for a present yield of 165 barrels of 17.7 gravity crude oil through a 32/64-in. choke, along with 56,000 cubic ft. of gas a day. The well is bottomed at 4320 ft., with top Lerdo zone at 4140 ft. Green & Heiser put the well down. It is a southeast offset well to the prior completion.

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Seaboard Oil Company is making satisfactory progress with the drill around 200 ft. in its Seaboard-Bandini-Government No. 41-10 wildcat venture on Sec. 10-28s-19e in the McDonald Anticline area. Bandini apparently joined with Seaboard in a play encompassing 750 acres. In passing, it is interesting to note that Bandini evidently shares a 25 per cent interest in the play free of costs to itself. This all appears to have come about through an operating arrangement whereby some partner other than Seaboard is taking care of Bandini's share of drilling costs for half of the company's interest. The wildcat is primarily designed as an Eocene test to 5000 ft. or so. Bandini, incidentally, holds between 11,500 and 12,000 acres of leases in unproved ground in the McDonald Anticline area, in Monterey County and at North and South Cuyama. Going back to the McDonald Anticline explorer, location is about two miles northwest of production and one mile southwest of the duster down to 6675 ft. by Murphy Brothers a year and half ago. This try of yesteryear was known as Theta No. 2 and located on Sec. 2-28s-19e.

At the north fringe of the Kern River field, Arthur C. Skillington's Wilmar No. 8 on Sec. 20-28s-28e is drilling at a depth yet inconclusive. The operator holds a lease of 139 acres obtained from Wilmar Oil Company.

In the Poso Creek field, Intex Oil Company has completed its Conoco No. 62 on Sec. 33-27s-27e at 2389 ft. for 130 barrels of 11.5 gravity oil a day. Over in the Glide sector at Mount Poso, Bradford Bishop has just spudded his Glide 11 No. 1-A


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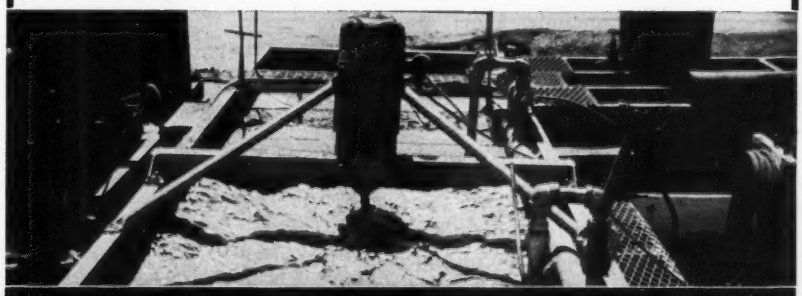
**NOW – After five years of research and development, this chemical product, manufactured by the Pacific Lumber Company and derived from California redwood trees, is available as a more economical and more efficient viscosity and gel strength additive for your drilling mud.**



**BROWN MUD COMPANY**

VENTURA Miller 3-8168 | LOS ANGELES YORK 7494 | BAKERSFIELD 2-6410

on Sec. 11-27s-28e. The project is aimed for production in Vedder zone oil sand.

**Fruitvale Active Area**

The Fruitvale field is getting plenty of attention from San Joaquin Valley operators. A recent entrant is Lesher Oil Company of Bakersfield, which is putting down a well on Sec. 23-29s-27e. Lesher Oil is a partnership made up of I. W. Lesher and Rollo Brinkman. Macrate Oil Company's Harrison No. 1 on the same section is in from 3647 ft. for 58 barrels of 18 gravity oil a day. Other operators active at Fruitvale include Dumm Brothers Petroleum Company, Campbell, Shell & Collins, Edwin Preszler, H. L. Whiston, Sr., Western Gulf Oil Company, Grasco Oil Company and Gene Reid Drilling Company.

Pacific Western's development program on the Belgian Anticline has been augmented by the staking of locations for two new jobs. They are Midway-McKittrick A No. 23-30 on Sec. 30-30s-22e, and Veon No. 56-A-24 on Sec. 24-30s-21e.

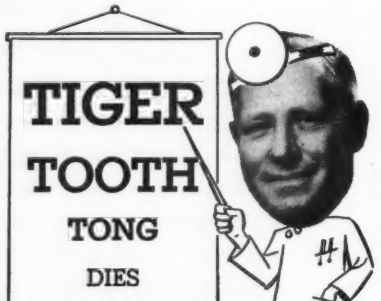
Macmillan Petroleum is understood to have taken a one-year extension on its Kirschenmann lease on Sec. 15-30s-29e at Edison. The lease embraces 160 acres. Speaking of Macmillan, that company along with Blackwood & Nichols and Richard S. Rheem have scored again by discovery of a new fault block in the combination's Southwest Navina field, Logan County, Okla. Berg No. 1 was tested for a flow of 97 barrels of 39.5 gravity oil in six hours from the interval of 6430-6475 ft. and established the first Dolomite production in the area.

Recent completions in the Midway-Sunset field include Ethel D Oil Company No. 13 on Sec. 36-12n-24w, Mt. Diablo Oil Company's Mt.Diablo No. 105 on Sec. 26-32s-23e. Shell Oil Company's Wier No. 7-1 on Sec. 22-31s-22e, and National Oil Company's Government No. 47 on Sec. 35-32s-23e. They were finaled at 1878, 1684, 1414 and 1800 ft. for initial yields of 63,35, 17 and 38 barrels a day, respectively. At nearby Taft, John L. Perryman, former mayor of the oil city, has been appointed city treasurer.

**MJM & M Redrilling**

MJM & M Oil Company's Atlantic-Koehler No. 2 deep test on Sec. 29-30s-29e in the Mountain View area is redrilling below 2920 ft., after going the first time down to 6375 ft. It appears that the venture poked into faulting higher than anticipated and the present directional operations were probably invoked in order to get nearer to the face of the displacement. Northwest of the Wible pool sector, Signal Oil & Gas has leased about 75 acres on Sec. 3-30s-28e from Tyner & Graham. It is understood to be a 20-year lease. Patrick A. Doheny is planning to drill a well on a 60-acre lease on Sec. 33-30s-29e and not far from Meeker & Garner's Derby No. 1.

In the Plieto Hills, southwest of the Wheeler Ridge field, Richfield is running tests of showings credited to its San Emidio No. 1 on Sec. 36-11n-21w. The project is a link in a chain of wildcats mapped out by the company for testing a spread of land under lease from Wheeler Ridge westward into San Luis Obispo County. San Emidio No. B-1 is bottomed at 14,238 ft., with plug at 13,300 ft. Contract driller is Loffland Brothers.


*If you can read the first two lines—don't worry!*

**Just call old Doctor Eubanks and say "Tiger Tooth." ★ His diagnosis will be that your *eyes* are okay—your *head* does *not* need to be examined—and you *won't* have any tong men injured from having tong dies slipping on hardened wear subs or tool joints. ★ Especially if you're using 'em in Web Wilson Tongs with the "Spiral" hinge pin arrangement that is years ahead in strength, safety and easy operation. ★ The name is Jess Eubanks; the phone is Miller 3-6767, at 1641 North Ventura Avenue, in Ventura-by-the-sea!**


**Chowchilla Work Set**

Tide Water Associated announces it is ready to resume its gas development campaign at Chowchilla in Madera County. Five wells have been slated for Secs. 7, 8, 17, 18 and 19-10s-14e. Across the line in Merced County, E. A. S. & Associate's Gay No. 1 on Sec. 36-10s-9e is temporarily idle at 3870 ft. awaiting larger rig.

Near Templeton in San Luis Obispo County, Hamilton & Sherman have pulled out of their Lenhoff No. 1 wildcat on Sec. 26-27s-12e, after drilling to 5002 ft. without encounter with major shows. Digging was mostly through hard shale.

Artnell Company is all set to drill another wildcat well in the Panoche Creek sector, Fresno County. Etcheverry No. 58-29 is the name of the new test, which is located on Sec. 29-13s-12e. It is about two miles south of the company's Hogue No. 54-20, suspended three months ago at 5632 ft.

Sidney M. Biddell's No. 1 exploratory hole on Sec. 32-23s-24e in Kings County's Alpaugh area at last reports was idle at 450 ft. awaiting heavier equipment to proceed on down. Engineering is being handled by Kemnitzer, Richards and Diepenbrock.

At Cymric in Kern County, Intex Oil's next job will be Cymric No. 44-3 on Sec. 21-29s-21e. Master's Drilling Company is about ready to spud the well.

Before signing off on San Joaquin Valley developments, excerpts from a recent Intex letter to company shareholders are worth putting in printer's ink. In part they said "three additional development wells on production leases in California are scheduled for drilling within the next 60 days. Three new exploratory tests in the California coastal division and at least two new projects in the San Joaquin Valley area will be started within the next three months. These latter two tests will be drilled to possible high gravity oil zones at depths ranging from 6500 ft. to 11,000 ft. and hold promise of large oil reserves if production is obtained. Several prospects in Texas probably will be undertaken shortly by other operators on farmouts from your company, and two tests are scheduled to start in the near future at locations offsetting the company's

Borden County acreage in Texas."

## Beaumont Wildcat Attracts Interest

A protracted geological controversy as to the production possibilities of the San Gorgonio Pass area in Riverside County should be settled more or less by results of present exploratory drilling on Sec. 12-3s-1w. The well was undertaken by Beaumont Exploration Company, recently organized by Drew Funk, former Mayor of Beaumont, and Eddie LeBaron, oilman and at one time famed as a musician and an orchestra leader. Drilling at last reports was several hundred ft. below grass roots on a 2000-acre lease between Beaumont and Banning. Terminal Drilling Company is taking the test down and is understood to hold an interest in the play, which is being watched closely by a good share of the petroleum industry. Location more specifically is about one mile and one-half east of Beaumont on the north side of Highway 99.

Near where Devonshire and Reseda boulevards cross one another in San Fernando Valley, Porter Sesnon et al have given up Greenman Comm. No. 52-15 wildcat on Sec. 15-2n-16w. Drilled to a bottom of 6152 ft. the operator for a time was inclined toward plugging back to redrill from around 4000 ft. However, after further consideration, it was decided to write the venture off as a duster.

The Los Angeles City Council has approved oil well drilling on the 20th Century motion picture lot near Beverly Hills. The permit will go to Universal Consolidated.

### Aliso Canyon Try Set

Tide Water Associated is nearing the spudding stage with its Fernando No. 2 test on Sec. 27-3n-16w in the Aliso Canyon area. On Sec. 34-3n-16w, Carlton Beal & Associates are drilling a no dope hole around 6000 ft. known as Mission Adrian No. 7. Edwin W. Pauley's test on Sec. 19-3n-16w is still in the preparatory stages.

Intex Oil's second wildcat in the Little Tujunga area topped granite at 1505 ft. and went the way of all dusters at a bottom of 1537 ft. Tagged Cleeves No. 2, prospecting was carried on in Sec. 33-3n-14w.

On the Los Angeles Brick Company property in the Los Angeles area, Miller Oil Company has gone back to an old well on Sec. 21-1s-13w. The project at present is down 7505 ft. and efforts will be made to produce it.

Puente has registered a new well abandonment. It was the Dielectric Lab., Inc., Radin No. 2 test on Sec. 30-2s-9w. Drilling quit at 1160 ft.

The Texas Company's Del Amo NCT-One No. 2 on Sec. 2-4s-13w in the vicinity of Dominguez has been spudded and at last reports was making hole below 1500 ft. The company's K. Shimizu No. 1 on Sec. 15-2s-12w, northeast of the Bandini sector, is preparing to start.

Six miles north of Castaic on the Paradise Ranch, T. P. & G. Oil Company is testing for production with its Mary Austin No. 1 on Sec. 28-6n-17w. Casing was cemented at top of plug at 6840 ft., with total bottom 6902 ft. The well was taken over some months ago by the present operator at a depth approximating 4800 ft. At Castaic, Richfield's Moran No. 54-35 test on Sec. 35-5n-17w continues to dig ahead around 5400 ft. Drilling chores are in the hands of International Drilling Company, which is also digging at 2560 ft. with the company's Rynne- Fisher No. 34-35 on Sec. 35-5n-17w in the Castaic Hills. Richfield, which not long ago took over Continental's interests in the Castaic Hills field, has commenced reconditioning the old Rynne-Fisher No. 22-36 well on Sec. 36-5n-17w for the joint account of itself, Ted Sterling and Paul Trousdale. Continental abandoned the project at 6063 ft. without abandoning the Sterling sand. However, Richfield's offset well, Turney No. 33-36, also missed the Sterling zone, but it was plugged back and whipstocked to the west and completed as one of the most lively producers in the field. After several months of production, it is continuing to put out several hundreds of barrels daily. All signs agreed that Richfield engineers concur that they can duplicate their Turney No. 33-36 at the old Continental Rynne-Fisher No. 22-36 location.

**Killingsworth Oil Company's Mitchelle No. 1 in the Torrance field with Killingsworth Bros. doing the work. Left to right: E. D. Lindley, derrick; Ted Jones, lead tong and H. W. Killingsworth, driller.**

### Orange County

Drilling & Exploration Company, which the other month extended production in the Atwood-Richfield area of Orange County, is drilling ahead below 1000 ft. with its follow-up, Drilexco-State-Stern No. 2 on Sec. 32-3s-9w. No. 1 on the section was completed at 4985 ft. for 243 barrels of 20 gravity oil a day. State Production Company holds one-half interest in the play.

The Texas Company is making hole at 1675 ft. with its NCT-One No. 1 on Sec. 30-3s-8w on the historic Carrillo Rancho. Location is two miles east of the Kraemer field and one-half mile southeast of the new Esperanza field, opened up by Texaco's Travis No. 1, a non-commercial producer. One-half mile south of the find, the company's followup job, Travis No. 2, has been abandoned at 3621 ft. It was on Sec. 30-3s-8w.

In the Olive area, Texaco is making ready to put down its Olive Unit One No. 2 wildcat on Sec. 7-4s-9w. On Sec. 9-4s-9w, A. A. Carrey, veteran Long Beach oilman, as operator is drilling at 2800 ft. with Bixby-Nohl No. 1 test.

At Fairview near Costa Mesa, drilling operations have been suspended at 6555 ft. with Sandburg & Carlson's Segerstrom No. 1 prospect job on Sec. 9-6s-10w.

## Yolo County Adds New Gas Discovery

Ohio Oil Company has uncorked a new source of natural gas about one mile east of the Pleasant Creek field in Yolo County. The test, A. H. Rominger No. 1 on Sec. 4-8n-1w, started off from 3641 ft. flowing at the rate of 3,100,000 cubic ft. of gas a day from the interval perforated from 3575-3585 ft. The 7-in. casing is set at 3640 ft. In the Pleasant

Creek field, wells are tapping formation of Eocene age around 2800 ft. Brown Drilling Company guided the discovery well to success.

Shell is about to spud its Unit No. B-1 wildcat on Sec. 7-4n-1e, north of the Kirby Hills gas field in Solano County. A half-dozen wells are producing in the field from the Domegine sand at 2300 ft. or thereabouts.

North of San Miguel, the Joseph C. Kimble, Operator, Jensen-McNee No. 1 wildcat has been written off at 4665 ft. The drill site was on Sec. 21-24s-12w, Monterey County.

Humble Oil has just started drilling its Capital Co. No. B-1 on Sec. 3-16n-1w, north of Colusa in Colusa County. Location is some miles northeast of the Colusa gas field, a General Petroleum discovery a decade ago. Humble's Capital Co. No. 1 on Sec. 28-16n-1w was abandoned at 3551 ft.

East of Chico in Butte County, Cherokee Oil's Openshaw No. 1 explorer on Sec. 3-20n-3e quit at 934 ft.

The Texas Company has two Alameda County wildcat wells in the early operational stages. They are Wagoner No. 1 on Sec. 19-3s-2e in the Bardee area, and Signal-Hancock-Christensen No. 1 on Sec. 26-2s-2e, north of the town of Livermore.

On the Larkin's Children's Rancho in Glenn County, Sunray Oil is rigging to begin drilling its Friesen No. 1 wildcat well on Sec. 19-19n-1w.

Spudding will be almost the immediate event in the Elisha Walker, Jr., Mohawk-Hammond No. 1 prospect job in Humboldt County's Dyer area. The derrick is on Sec. 14-1n-2e.

**Santa Ynez Try Digs**

One and one-half miles northwest of the town of Santa Ynez, Amerada Petroleum's Gauld No. 1 exploratory well continues to drill steadily ahead below 4000 ft. Hoyt Drilling Company is putting the wildcat down on Sec. 12-6n-31w.

At Cat Canyon, Douglas Oil Company's Douglas-Fletcher No. 1-7-22 on Sec. 22-9n-33w has been finaled at 3600 ft. Representative production gauge is not yet available. Douglas, by the way, reported record high sales of $21,156,165 for the fiscal year ended March 31. Crude oil production and refinery output also established records for the period. Net earnings were $639,286, or 55 cents a share on the 1,151,065 shares of common stock outstanding. Gross crude oil production totaled 887,712 barrels, up 62 per cent from last year. Refinery output was 5,412,402, compared to 4,851,982 last year. On Sec. 24-9n-33w, Slick Moorman Production Company has given the final touch to its Palmer-Stendel No. 44-A at 2980 ft., for an unestimated yield at this writing.

In the Jonata area near Buellton, The Texas Company's Caldac No. 1 wildcat on Sec. 19-7n-31w has reached 2995 ft. The play encompasses some 1500 acres lying four miles west of Los Olivos. In addition to its land surrounding the wildcat, Texaco has several thousand acres of mineral fee ground in the general area. Seven miles southeast of Lompoc, the company's Summers No. 1 test on Sec. 35-6n-33w at Ytias Creek is preparing to drill.

**Offshore Well In**

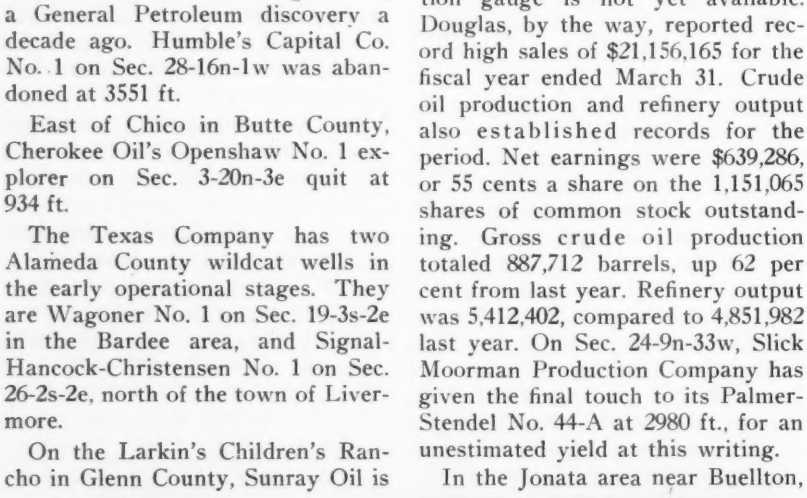
Standard of California has successfully completed its interesting State No. C-1 test on Sec. 35-2n-23w in Ventura County's Montalvo area. The well was directionally drilled from onshore to a bottom underneath the ocean floor at 12,543 ft. The 7-in. casing was set at 10,488 ft. and the 5-in. set at 12,529 ft. The well at last reports was producing 345 barrels of oil and 77,000 cubic ft. of gas daily. Contractor was Pike Drilling Company. At West Montalvo, the company's McGrath No. 113-18 on Sec. 26-2n-23w has been abandoned at 9886 ft., after showing only minor response to conventional tests.

In the Oxnard area, Standard's Scholle-Livingston No. 1 wildcat on Sec. 32-2n-21w continues to drill on down below 5200 ft., after corrected mechanical troubles. McInnes No. 1 on Sec. 1-6n-21w is down 9525 ft. and still working on a fishing job. Southeast of the McInnes well, Intex Oil's Capco No. 5-1 on Sec. 5-1n-21w is digging at 3340 ft.

**Torrey Test Started**

The Texas Company has staked location for its Hunter No. 2, 1000 ft. south and 375 ft. west of the northeast corner of Sec. 6-3n-18w at Torrey Canyon. Texaco some months ago drilled its Hunter No. 1 wildcat to 10,150 ft. and found nothing commercial. However, since the first test was taken down, additional chapters have been added to the geologic history of the area. All production developed to date in Torrey Canyon is owned by Union, which currently is down around 13,000 ft. with its Torrey No. 92 on Sec. 5-3s-18w.

In the rolling Camarillo Hills, Union is set to start drilling its Union-Continental-Janss No. 1 on Sec. 22-2n-21w. The drill site is near the intersection of Walnut and



**L. B. O. D.'s W-51 with Acme Drilling Company as drilling contractor. Left to right: C. Van Leevwen, cathead; Fred Stingel, racker; Bob Johnson, derrick, William Fredrick, driller; M. B. Wilmot, lead tong.**

Los Angeles avenues on the Rancho Los Posos.

Union's present operations at Shiells Canyon is represented by Williams Shiells Co. No. 1 test on Sec. 34-4n-19w. Santa Fe Drilling Company is moving ahead with the project at 2004 ft.

Simi No. 19 on Sec. 16-3n-17w at Chivo Canyon is on the Union calendar for early drilling.

In an area colorfully described as Squaw Flat, Pathfinder Oil Company's Lee No. 1 wildcat venture on Sec. 5-5n-19w continues to dig at 1805 ft.

Russ Watkins Drilling Company is drilling at 3100 ft. with Pamoan Oil Company's wildcat on Sec. 6-2n-17w at Simi, which bears the unusual tag of "Hot Rod Flannagan No. 1."

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## Pike Pusher Verne Coats Former School Teacher

From country school teacher in Missouri to Assistant Superintendent for an outfit like Thomas P. Pike Drilling Co., Los Angeles seems to indicate an urge for something . . . but what? In any case, Verne Coats has made good after following his urge into the petroleum industry, and he has enjoyed all of it.

Born in Douglas County, Missouri, far enough back to have one son in the Air Corps who is just back from Korea, and another in Junior College, he finished high school in Ava, Missouri, and taught in a small country grade school for two years thereafter. Some of Verne's students were older than their teacher . . . and . . . some of them were bigger! Hmmm. Wonder if that is why he went into a nice safe and sheltered line like oil-well drilling. Could be, could be. . . .

In any case he got the well-drilling urge while working during summer vacations on a cable tool water-well drilling outfit owned and operated by his father. He also threw in a stint of working on the family farm, a habit which had grown upon him from boyhood. That wasn't quite hard enough to keep his muscles in trim, however, so he went to Santa Rita, New Mexico, and put in three years working with 1599 other men in an open pit copper mine. Toward the end of that tour he was

**Verne Coats**

operating a steam shovel. Becoming bored with endlessly moving mountains from here to over yonder, he put in a short period as timekeeper and office clerk for the same outfit before the urge hit him again.

He then came to Southern California in the latter part of 1928 during the Signal Hill boom and "settled down" to something a feller could get a pair of tongs onto . . . roughnecking.

Two years later, he was married in Garden Grove, California, and by 1933 was the father of two boys, which made "settling down" a permanent project.

After working for various drilling companies for a few years, Verne was made driller by the Kern Drilling Co. and worked as such until he came to Thomas P. Pike Drilling Co. in 1940. But operations were somewhat slack and he worked again for Kern, J. M. Jackson, K. L. Kellogg and Sons and others, until he was called to Pike Drilling again in January 1944 and made Toolpusher by October of that year. Seven years of toolpushing followed in the Pike organization, drilling wells in the important fields of Southern California, and as far north as Lafayette near Oakland, until he went to Placerita in 1951 where he took charge of the operation of seven Pike rigs which were drilling then for Texas operator, Tevis Morrow.

In December 1951, he was made Assistant Drilling Superintendent, in charge of the company's Northern Division, working under Drilling Superintendent, John Fowler.

Verne feels he has finally settled down in a business where there is never a dull moment and with an outfit, where under the company's plan of Incentive Management with Profit Sharing, he not only has a stake in the profits, but a voice in the management whenever he feels the "urge" to speak right out in meetin'.

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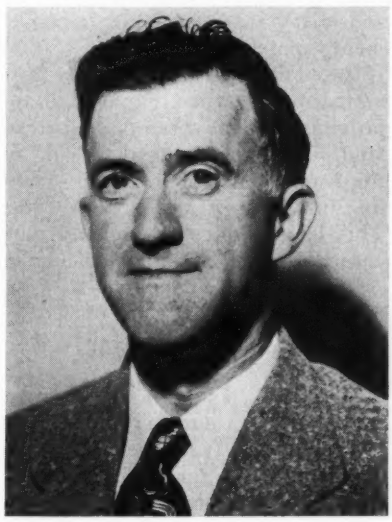
## Sweeney Advances at Allied Supply

Allied Supply Company of California, well known distributor of pipe, valves, fittings and engineering specialties in Southern California, announces the recent appointment of Pete Sweeney to the position of Office and Warehouse Manager. Previously he has served for



**Pete Sweeney**

ten years in many capacities at Allied Supply and is thoroughly familiar with the many lines of products stocked by the company. For the past eight years he has been Warehouse Superintendent. With his experience and knowledge of products he will, in his new capacity, better serve this company.

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U.S. Drilling Company's present field work includes three contract jobs in the Santa Fe Springs field. They are Carlton Beal & Associates' Eagle No. 1, Rothschild Oil Company's Wardman No. 1 and Trumbower No. 1. Toolpushers are Jack Gregg, Ross James and Don Cox, respectively.

## Kaiser Steel Purchases Large Acreage

Kaiser Steel Corporation recently announced the purchase of approximately 310 acres of industrial land north of Arrow Highway, south of Foothill Boulevard, and east of New Haven Avenue, just west of the steel plant.

Simultaneously, The Atchison, Topeka and Santa Fe Railway Company announced the purchase of approximately 150 acres of industrial land in the immediate vicinity.

Both parcels of land are served by a Santa Fe spur track and are adjacent to approximately 140 acres which Santa Fe purchased a year ago.

Acquisition of the land by Kaiser Steel was made through its subsidiary Iron Queen Mining Company, and by the Santa Fe through its subsidiary Santa Fe Land Improvement Company.

In addition, Kaiser Steel announced the earlier purchase of approximately 260 acres of industrial land fronting on the south side of the Southern Pacific Company main line just west of Mulberry Avenue. This land is adjacent to land purchased by the Southern Pacific in April and will be combined with industrial property already owned by Kaiser Steel Corporation along Etiwanda Avenue.

Mr. Jack L. Ashby, Vice President and General Manager of Kaiser Steel, stated: "It has been apparent to us for a long time that there is a great industrial potential in this area and we felt that in order to provide the proper foundation for this growth it would be desirable to acquire a substantial amount of industrial land."

Speaking for the Santa Fe, Mr. Fred G. Gurley, President, stated: "It has always been the policy of our line to assist the proper and logical growth of industry through acquiring and developing suitable land. In the Fontana area a tremendous growth has already taken place and we recognize the many economic factors that point to a further substantial growth."

The newly acquired property on the Santa Fe, as well as that on the Southern Pacific, is considered to be favorable for industrial development with direct access to main line railroad service and to various utilities such as power, gas, and highways.

No definite plans have been formulated for the industrial development of the land and it was pointed out that there are no immediate prospects of any new industries. Nevertheless, the total industrial property now available — approximately 1500 acres—provides ample assurance of available land for new industries which may desire to locate near Fontana.

The value of new industries to the tax structure of any community is very important. An industrialized area usually contributes several times the taxes for a comparable area devoted to residences or to agriculture.

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## Navy Plans Laying Miramar Fuel Line

Before August the Navy probably will start work on construction of a fuel pipeline from Point Loma to the Air Station at Miramar in the San Diego region. The project, approved by the 82nd Congress, will require a 10 to 20-ft. right-of-way through private and public property. The entire pipeline course involves 26 privately owned parcels of land and others owned by the city of San Diego, the state, and Santa Fe Railway.

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## Propane Gas New Rail Power

The Union Pacific Railroad Company has inaugurated use of the propane gas turbine-electric locomotive as a freight hauler between Los Angeles and Salt Lake City. Weighing 275½ tons, the new locomotive delivers a maximum of 4800 horsepower. This is more power than Diesel units produce, according to David S. Neuhart, UP's general superintendent of motive power and machinery. Greater fuel economy and great flexibility is credited to the new gas turbine-electric locomotive.

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Californians, Inc., San Francisco, has just opened a new national tourist advertising campaign. E. J. McClanahan is president of the organization. He also is a director and vice president of Standard Oil of California.

## Brown Mud Appointed by Palcotan

Brown Mud Company has been appointed as Pacific Coast sales representative for Palcotan drilling mud additive, according to The Pacific Lumber Company, manufacturer of the product. Palcotan is used to reduce viscosity and control gel strength and water loss of drilling muds.

Warehouses and engineering services are maintained by Brown Mud Company in Los Angeles, Ventura, and Bakersfield. The firm is headed by George M. Brown, who is well known throughout the west for his long experience in chemical engineering fields.

Palcotan, a water soluble compound containing an organic extract of redwood bark, has been field tested over a long period of time in various types of drilling muds. It is said to exceed specifications of other products used for the purpose, at substantially lower cost.

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## Jakosky Revises Textbook

The well known and widely used textbook, "Exploration Geophysics," written by Dr. J. J. Jakosky, president of International Geophysics, Inc., in collaboration with a number of other nationally recognized authorities on the subject, and recently revised, is still an essential in every geophysical laboratory or department in the petroleum business.

This book covers the entire field of exploration by modern geophysical methods and constitutes a remarkably understandable exposition of what is normally a distinctly complex matter. It has thirteen chapters outlining and explaining all contemporary methods of seismic recording and interpretation, as well as the pertinent subjects of permit, trespass, and insurance.

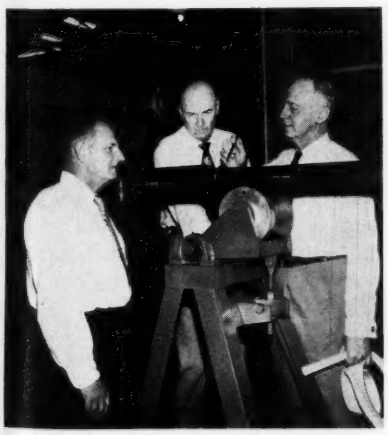
It is an indispensable item in the library of the geologist, geophysicist, physicist, mathematician, and engineer, engaged in exploration, well logging, or production, and is the adopted geophysical textbook of many leading universities.

## Reed Enlarges Plant

A 43,000-square foot addition to Reed Roller Bit Company's Houston plant has recently been completed. The new shop will flash weld tool joints to drill pipe, latest addition to Reed's line of oil tools.

More than 50 Reed Division Managers and salesmen from all over the United States, Canada Mexico, and South America, were brought to Houston for a three-day session to inspect the new plant and watch it in operation.

At a cost in excess of half a million dollars and after extensive experimentation and metallurgical research, Reed engineers and technicians have perfected their process for flash welding tool joints to drill pipe. The flash-produced weld is so strong that when strength tested to the point of destruction, resulting breaks consistently occurred outside the weld area and in the drill pipe itself. Additional tests were made on full size welds under production conditions, the welds being meticulously cut up, examined and tested in the company's metallurgical department.



**Reed Roller Bit salesmen inspect a newly welded Reed tool joint, flash welded to drill pipe. Left to right: F. L. Tyler, Manager of the Pacific Coast Sales Division; L. J. McGraw, Special Salesman in that Division; and R. G. Hamaker, Vice President in Charge of Sales.**

The pipe handling equipment in the new Reed shop is perhaps the most efficient and fully automatic system in the business. Designed by Reed engineers, this system collects and feeds drill pipe into the welding machine, moving the 600-pound lengths around, without workers having to touch them.

Welding is accomplished by a Swift Special flash welding machine. Specially designed for this job, it weighs nearly 60 tons and is as big as a two-car garage. Latest improvements in centering and holding devices keep the tool joint and drill pipe in perfect alignment during the welding operation.

The new Reed tool joint is available in full hole, semi-internal flush and internal flush types, with either the conventional square shoulder or with an 18-degree taper. It joins the family of oil tools made famous by the Reed rock bit, tool joints, drill collars, coring equipment, and Cleco air tools.

---

## Bridging Plug Drilling Time Reduced

Reduction of time required for the drilling of either cast iron or magnesium bridging plugs, set as temporary bridges, has been achieved in a number of fields, according to reports received by Lane-Wells engineers. Lane-Wells Bridging Plugs, set on wire line, are designed for either permanent or temporary bridges. The plug is equipped with a ram adapter which transmits the downward reaction from the setting tool to the slips. When the plug is set as a permanent bridge the adapter is left in place for additional protection against plug damage by tools and falling junk.

In setting a temporary bridge operators can remove the ram adapter with the setting tool after setting is completed. Tests have demonstrated that drilling of the plug with ram adapter on can be completed in from 2 to 6 hours with either rotary or cable tools. Removal of the ram adapter permits drilling to be done in from 1½ to 4 hours according to field estimates. Full information about faster drilling time of bridging plugs can be obtained from any Lane-Wells branch office.

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## New Portland Industrial Cleaning Station

John B. Merritt, executive vice-president of BJ Service, Inc. and Industrial Chemical Service Co., recently announced the opening of an industrial Chemical Service station at Portland, Oregon. The Industrial Chemical Service Co. is a wholly owned subsidiary of BJ Service, Inc.

At the same time, Merritt announced that Keith J. Swift, fieldman, was transferred from the Oakland, Calif., station to take charge of the new Portland station. W. H. Atkins, sales engineer at Oakland, was transferred from the Oakland, Calif., station to Long Beach, Calif., to replace R. L. Johnston, who was recently reassigned to the Glendive, Montana station, Rocky Mountain Division of BJ Service, Inc. Replacing Atkins at Oakland is A. M. Marzolla, a former employee, now again with the Company.

The new station, Merritt stated, will offer chemical cleaning and maintenance service to industry throughout the Oregon area, including fast, economical, safe removal of water-deposited scales and sludges from all types of equipment.

---

Passenger on train: "Porter, what about these shoes? One's black and one's brown."

Porter: "Well, if that don't beat everything! That's the second time this morning that's happened!"

# THIS

# LAUGH OFF!!

Maybe Adam didn't have a funny bone, but he had lots of fun with a spare rib.

---

Heard on the beach: "My goodness, isn't that Fanny Brown over there?"

---

Didya hear about the ram who jumped off the cliff? He didn't see the ewe turn.

---

Joe: "What's masseur?"

Blow: "He's a guy who gets paid for what guys like us get slapped for."

---

Salesman: "I think she's priceless!"

Friend: "I know she is. I tried it."

---

She couldn't understand why she was blessed with twins, since she'd never been on a double date.

---

Husband to wife: "I got a couple of wonderful seats for us; yours is 'Carmen' second row center, and mine is the boxing matches, ringside."

---

It's no longer a sin to be rich—it's more of a miracle.

---

A tea wagon is a push cart that broke into Society.

---

Doctor: "The best thing for you to do is to give up drinking and smoking, get up early every morning and go to bed early every night."

Patient: "I don't deserve the best. What's the second best?"

---

A glamour gal is one who has what it takes to take what you have.

---

A middle aged wolf seated himself close to a cute little blond on the bus. As the bus swayed around a corner, he leaned over on her shoulder and said:

"Where have you been all of my life?"

She looked at him cooly and replied: "Well, for the first half of it, I wasn't born."

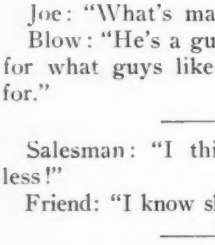
---

Judge: "Young man, you look very familiar. Have you ever been convicted by this Court?"

Witness: "No, your Honor!"

Judge: "Remember, you are under oath. Where have I seen you before?"

Witness: "I am the bartender in the saloon down the street."

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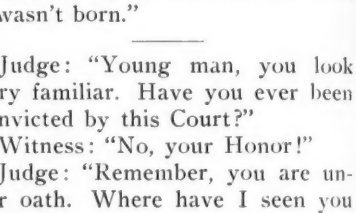

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